

# **Accident Prevention Plan**

## **Remedial Investigation/Feasibility Study**

### **Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

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*Prepared for*

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## Acronym List

ABIH	American Board of Industrial Hygiene
AED	automated external defibrillator
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
AOI	area of interest
APP	Accident Prevention Plan
ASME	American Society of Mechanical Engineers
ATF	Bureau of Alcohol, Tobacco, Firearms, and Explosives
BCSP	Board of Certified Safety Professionals
BIP	blow-in-place
CCIH	Corporate Certified Industrial Hygienist
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CHMM	Certified Hazardous Materials Manager
CHSM	Corporate Health and Safety Manager
CIH	Certified Industrial Hygienist
COR	Contracting Officer's Representative
CPR	cardiopulmonary resuscitation
CSP	Certified Safety Professional
DDESB	Department of Defense Explosives Safety Board
DFWP	drug-free workplace
DO	delivery order
EBT	evidentiary breath test
EH&S	Corporate Environmental Health and Safety
EM	Engineer Manual
EMR	experience modification rate
EOD	explosive ordnance disposal
FAR	Federal Acquisition Regulation
GDA	Government-Designated Authority
Gilbane	Gilbane Federal
H&S	health and safety
HAZCOM	hazard communication
HAZWOPER	Hazardous Waste Operations and Emergency Response (OSHA training)
HR	Human Resources
HTRW	hazardous, toxic, and radioactive waste
KEMRON	KEMRON Environmental Services, Inc.
KO	Contracting Officer
LEL	lower exposure limit
LHE	load-handling equipment
LOTO	lockout / tagout
m	meter
MD	munitions debris
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
NFPA	National Fire Protection Association
O2	oxygen
OSHA	Occupational Safety & Health Administration

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PG	Professional Geologist
PMP	Project Management Professional
POC	point of contact
PPE	personal protective equipment
QC	quality control
SDS	safety data sheet
SLP	Standard Lift Plan
SOP	standard operating procedure
SOW	scope of work
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SUXOS	Senior Unexploded Ordnance Supervisor
TBD	to be determined
USACE	U.S. Army Corps of Engineers
UXO	unexploded ordnance
UXOQCS	UXO Quality Control Specialist
UXOSO	UXO Safety Officer
WERS	Worldwide Environmental Remediation Services
WP	work plan

## 1. SIGNATURE SHEET

KEMRON Environmental Services, Inc. (KEMRON) has been contracted by U.S. Army Corps of Engineers, Tulsa (CESWT) for environmental-remediation services performed at the Area of Interest (AOI) North of Castner Range, El Paso, Texas. This Accident Prevention Plan (APP) has been prepared by KEMRON to identify and address physical, chemical, and environmental hazards that may potentially affect employees, subcontractors, and site visitors at the AOI North of Castner Range project site. This APP has been prepared for CESWT pursuant to and in accordance with contract number W912DY-10-D-0027. This APP has been prepared in accordance with EM 385-1-1 dated November 2014.

The signatures below indicate that this APP has been prepared and reviewed by qualified health and safety personnel and has been approved for implementation by KEMRON's Program Manager.



4/12/2017  
DATE

KEMRON PROJECT SCIENTIST  
PHONE: 



4/12/2017  
DATE

PHONE: 



4/12/2017  
DATE

KEMRON CORPORATE HEALTH AND SAFETY MANAGER  
PHONE: 



4/12/2017  
DATE

KEMRON CORPORATE QUALITY CONTROL MANAGER  
PHONE: 

## **Project-Specific Safety Orientation – Sign-Off Sheet**

Review and acceptance of the APP is required for all KEMRON site staff, visitors, and designated subcontractors' site personnel. The subcontractors' safety representative is to provide training on this plan to their company's project personnel and sign the analogous form with their employees.

### **PROJECT-SPECIFIC HEALTH AND SAFETY ORIENTATION CONDUCTED BY KEMRON'S SITE SAFETY AND HEALTH OFFICER**

I have received site-specific information and orientation regarding project safety and health management system; the identified physical, chemical, and environmental hazards recognized or anticipated; and their proper control at AOI North of Castner Range project site, including.

- Accident reporting procedures
- Activity Hazard Analysis
- Environmental hazards
- Emergency procedures
- Emergency telephone numbers
- Daily safety inspections
- Chemical hazards
- Physical hazards
- Heavy equipment and vehicle safety
- Inclement weather and shutdown conditions
- Noise
- Slips, trips, and falls
- Ultraviolet radiation exposure
- Flammable and combustibles—storage, use, and fire and explosion prevention
- Hazard communication program
- Hazardous waste operations and emergency response (HAZWOPER)
- Site regulations and housekeeping
- Fall protection
- Proper conduct
- Proper work attire
- Review of safety duties
- Safety meetings—types and frequencies
- Safety training and competencies—certificates required
- Training and competencies required
- Use and care of personal protective equipment (PPE).

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I am aware of, understand, and agree to comply with all applicable requirements, safety rules, policies, and procedures for the KEMRON project named within this document. My signature certifies that I have reviewed and understand the procedures, equipment, and restrictions applicable to this project and agree to abide by them.

## **2. PROJECT AND BACKGROUND INFORMATION**

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### **2.1. Contractor**

KEMRON Environmental Services, Inc.

### **2.2. Contract Number**

Contract number W912DY-10-D-002, delivery order (DO) DS01.

### **2.3. Project Name**

Remedial Investigation/Feasibility Study Area of Interest North of Castner Range.

### **2.4. Site History and Brief Description of Work to Be Performed**

#### **2.4.1. Site History**

The AOI North of Castner Range is 7,936 acres in El Paso County, Texas. The remedial investigation area will include approximately 5,860 acres. It is located north of the Closed Castner Range, not owned by Fort Bliss, and is bounded by Martin Luther King Boulevard on the east and the Franklin Mountains State Park on the west. Housing developments exist to the south, and a quarry is in operation just north of the northern boundary. The buildings currently on site include the unoccupied Bowen Ranch buildings. The site location is shown in **Figure 2-1**, and site features are shown on **Figure 2-2**.

#### **2.4.2. Scope of Work**

The objectives of this DO are to perform a remedial investigation / feasibility study and to achieve stakeholder acceptance of a Proposed Plan and Decision Document for the AOI North of Castner Range near Fort Bliss in El Paso County, Texas. The DO also includes installing fencing and signage around the El Paso Museum of Archeology and the National Border Patrol Museum, located on the Closed Castner Range as shown on **Figure 2-3**.

### **2.5. Site History and Current Environmental Status**

There are no records showing ownership or use of the AOI by Fort Bliss; however, multiple munitions debris (MD) items were identified during a MEC reconnaissance survey completed by USACE, Huntsville District, from 2013-2015. The Army Environmental Command (AEC) indicated that the presence of MD occurred either from kick-out debris from an open burn/open detonation (OB/OD) area or from overshoot during training exercises in the Fort Bliss Closed Castner Range that borders the AOI. No MEC items were discovered during the reconnaissance. Additional site information will be available after performing the historical records search.

### **2.6. Environmental Requirements**

KEMRON will comply with applicable Federal, State and local laws, regulations, and Installation-specific orders or agreements that may be required and has incorporated compliance with these requirements into our technical approach and personnel and subcontractor management. In the unlikely event an incident occurs that would constitute non-compliance, KEMRON will immediately report this incident to the KO and the COR telephonically and then by written notice.

Similarly, KEMRON will comply with applicable requirements for permitting, clearances, approvals and licensing for the work being completed and all have been incorporated into KEMRON's technical approach.

KEMRON understands that the Army will be the signature authority for all agreements and remediation documentation with the regulatory agencies. KEMRON will interact with the regulatory agencies and stakeholders in a manner that preserves legal and program obligations. KEMRON will adhere to all applicable local, state, federal, DoD, and Army standards for tasks and deliverables in this TO.

## **2.7. Contractor Accident Experience**

KEMRON is an established, safety-conscious environmental consulting, remediation, and engineering company. The KEMRON occupational injury and illness rates are summarized in **Table 2-1**.

**Table 2-1  
KEMRON Accident Experience**

<b>Year</b>	<b>KEMRON Total Man-Hours Worked</b>	<b>KEMRON Lost Work Day Incident Rate</b>	<b>KEMRON OSHA Recordable Rate or Total Incidents Rate</b>	<b>KEMRON Experience Modification Rate (EMR)</b>
2016	341,869	0.00	0.00	0.83
2015	318,768	0.63	1.25	0.77
2014	278,501	0.00	2.87	0.81
2013	339,365	0.59	1.18	0.84
2012	335,941	0.00	0.60	0.84
2011	300,371	0.00	0.00	0.84
2010	286,520	0.00	0.70	0.84
2009	242,975	0.00	0.82	0.92
2008	287,335	0.00	2.78	0.88
2007	399,283	0.00	1.00	0.95
2006	384,300	0.00	1.04	0.85
2005	348,219	0.57	1.72	0.84
2004	339,857	0.00	1.18	0.81

**Notes:**

OSHA - Occupational Safety & Health Administration

## **2.8. Phases of Work Requiring an Activity Hazard Analysis**

Each individual work activity will require the preparation of an Activity Hazard Analysis (AHA), which will be submitted to the KEMRON Project Manager (PM) for review, completion, and approval before starting the activity. The approved AHAs will be included in the Site Safety and Health Plan (SSHOP) and will remain accessible on site for viewing by all site personnel. All current KEMRON AHAs are located in the SSHOP, which is **Attachment 1** of this APP.

The following project tasks are required to achieve the performance objectives for this DO (outlined in the scope of work (SOW)).

1. General site activities
2. Vegetation removal
3. Civil survey/surface/sub-surface clearance/analog all metals detector survey
4. Geophysical Survey
5. Anomaly detection and removal/munitions and explosives of concern (MEC) disposal
6. Material documented as safe certification and shipping

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7. Soil sampling
8. Intrusive investigations
9. Fence and sign installation.

Several of the project tasks will overlap and some activities will occur concurrently or in a phased approach. Activities for which an AHA will be required will be reassessed before the start of the activity. This APP is considered an evergreen document that will be amended and edited as site work progresses.

## **3. STATEMENT OF SAFETY AND HEALTH POLICY**

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### **3.1. Corporate Policy on Workplace Health and Safety**

KEMRON management fully supports and promotes the safety and health of all its employees. Therefore, it is the policy of KEMRON to provide and maintain safe and healthful working conditions and to establish standard programs and procedures that will safeguard employees and result in efficient operations.

KEMRON safety practices and procedures are provided in this APP for use and reference. These safety practices are required to be followed by all company employees to successfully achieve the goals of this policy. Therefore, management expects and encourages each employee to adhere to the practices and procedures identified in this manual.

Each level of management is responsible and accountable for safety and accident prevention. All levels of supervision will assure a safe working environment; establish and enforce safe work practices; foster good safety attitudes; motivate employees to follow safe work practices; and comply with federal, state, and local codes and regulations.

Each employee is responsible for following all general and job-related safe work practices and procedures, reporting unsafe work conditions, and considering the consequences of their acts on their personal safety and that of fellow workers.

The effectiveness with which each individual implements his safety responsibilities is a significant factor in personal advancement and company growth.



**Signature**

---

December 2015  
**Date of Last Revision**

---

Executive Vice President  
**Title**

### **3.2. Project Safety Goals**

KEMRON accepts the responsibility of providing a safe and healthful workplace. Among many goals for this project, KEMRON objectives include completion with zero accidents and incidents (including no injuries, lost work days, restricted work days, or property damage). KEMRON strives to maintain and / or improve upon our current EMR and safety performance statistics as a result of our performance on this project.

KEMRON's accident experience safety goals for this project follow.

- Successfully support and provide effective communication between management and staff
- Complete site awareness, evacuation rally point, review of hospital route map review
- Daily review of AHAs and strategy implementation to combat injuries

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- Report all near misses, incidents, accidents, and injuries immediately
- Provide first-aid, cardiopulmonary resuscitation (CPR), and automated external defibrillator (AED) assistance as appropriate
- Identify and mark any anomaly during avoidance activities
- Perform daily inspections and maintenance of equipment.

## **4. RESPONSIBILITIES AND LINES OF AUTHORITY**

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All KEMRON, subcontractor, and site personnel involved in this project will be required to read and understand this document before participating in any on-site tasks that involve potential exposure to on-site safety and health hazards. After reading this APP, site personnel will complete the Health and Safety Sign-Off Sheet (Project Specific Safety Orientation Sign-Off Sheet), indicating their understanding of, and willingness to comply with, the requirements contained within this APP.

### **4.1. Management Accountability**

KEMRON has the ultimate responsibility for to implement the health and safety procedures provided in this APP. KEMRON corporate management, and associated regional officers, will conduct regular project performance reviews to ensure health and safety procedures are being followed. All accidents and incidents will be investigated by management and appropriate feedback provided to the PM and Senior Unexploded Ordnance (UXO) Supervisor (SUXOS).

### **4.2. Identification and Accountability of Project Personnel**

This section describes the KEMRON and subcontractor personnel position responsibilities for project safety and the lines of authority for these personnel. Resumes of key personnel are provided in **Attachment 2**, and training certificates of key field personnel are provided in **Attachment 3**. A detailed organization chart illustrating lines of authority and roles for project management is provided in **Figure 4-1**.

KEMRON project staff will include personnel from various departments within the organization. The following staff will have critical roles in the safe execution of this project.

- KEMRON Program Manager: Ralph Brooks
- KEMRON PM: Daniel Burnett, PG (Professional Geologist), PMP (Project Management Professional)
- KEMRON Corporate Quality Control Manager (CHSM): Leland Meadows, Certified Hazardous Materials Manager (CHMM), Certified Safety Professional (CSP)
- KEMRON Corporate Health and Safety Manager and Certified Industrial Hygienist: Steve Fess, Certified Industrial Hygienist (CIH), CSP
- KEMRON UXO Safety Officer (UXOSO)/UXO Quality Control Specialist (UXOQCS): TBD.

#### **4.2.1. Program and Project Management**

##### **KEMRON Program Manager: Ralph Brooks**

Mr. Brooks is responsible for the progress of the work at the program level. He supervises all personnel to ensure appropriate employee performance for site work, health and safety compliance, completing accident/incident reports, and enforcing corrective actions. The program manager, or designee, will have work stoppage authority for the project. In addition, the PM has the following responsibilities.

- Foster an officewide commitment to KEMRON's health and safety policy and goals
- Support the PM to ensure that safety and health requirements are met
- Ensure overall contract conformance to U.S. Army requirements and specifications, including technical, cost, and schedule
- Allocate sufficient resources to ensure successful completion of the project
- Manage the project budget and schedule, with concurrence from the U.S. Army and regulators, thereby, ensuring project requirements are satisfied.

### **KEMRON Project Manager: Daniel Burnett, PG, PMP**

Mr. Burnett is responsible for all day-to-day activities of the work at the project level and will have overall responsibility for project safety requirements. He supervises all project personnel to ensure that all on-site work is performed in compliance with the project specifications and maintains direct communication with the Program Manager and the USAESCH PM/Contracting Officer's Representative (COR). The PM will have work stoppage authority for the project. In addition, the PM directs the following.

- Communicates office-specific health and safety needs to the CHSM and SUXOS, as appropriate
- Directs audits of the administration of health and safety programs on job sites
- Ensures compliance with the APP/SSHP
- Supports the Task Managers and SUXOS to ensure that safety and health requirements are met
- Reviews and approves the final reports and support files on the project activities
- Assumes overall responsibility for the success and proper execution of the project
- Initiates project planning and implementation of project
- Manages the project budget and schedule, with concurrence from the U.S. Army and regulators, thereby, ensuring project requirements are satisfied.

#### 4.2.2. KEMRON Corporate Support

### **KEMRON Quality Control Manager: Leland Meadows, CHMM, CSP**

Mr. Meadows is responsible for monitoring the progress of the work at the corporate level. He supervises all personnel to ensure appropriate employee performance for site work, health and safety compliance, completing accident/incident reports, and enforcing corrective actions. Mr. Meadows responsibilities include:

- Directing audits of the administration of health and safety programs on job sites;
- Supports the SUXOS to ensure that safety and health requirements are met
- Reviews and approves the final reports and support files on the project activities
- Ensures overall contract conformance to project requirements and specifications, including technical, cost, and schedule
- Initiates project planning and implementation of project.

### **KEMRON Corporate Health and Safety Manager: Steven K. Fess, CIH, CSP**

Mr. Fess is responsible for the development and administration of KEMRON's Corporate Environmental, Health, and Safety Program. The CHSM reports directly to the Executive Vice President on all health and safety issues. Corporate health and safety representatives may conduct site audits and inspections, but will not be on site during all project activities. The following are the responsibilities of the corporate Health and Safety Group.

- Fostering a companywide commitment to KEMRON's health and safety policy and goals
- Developing and maintaining health and safety standard operating procedures (SOPs) and policies
- Reviewing all accident/incident reports, and initiates additional investigation when necessary
- Obtaining authorization to fund health and safety training and equipment.

### **KEMRON Corporate Certified Industrial Hygienist (CCIH): Steven K. Fess, CIH, CSP**

The CCIH is responsible for managing the development, oversight, and enforcement of the APP/SSHP. The CCIH will act as the Safety and Health Manager role for this project by providing continuous consultation with the PM, SUXOS, and UXOSO to maintain the proper implementation of the APP. All site activities will be performed under the direction of the CCIH throughout the duration of the project. However, the CCIH will not be on site throughout project activities. The CCIH may visit the site on an as-needed basis to audit the procedures and ensure the proper implementation of the APP/SSHP.

Additional responsibilities for the CCIH include the following.

- Conduct and/or supervise any initial site-specific training
- Provide safety and health support the project at the startup of the project, for major phases of work, and for task specific situations requiring additional oversight
- Conduct, supervise, or direct periodic inspections/audits to determine if the APP is being followed
- Support the PM and SUXOS during emergencies
- Coordinate any modifications to the APP/SSHP with the SUXOS and PM
- Determine the appropriate PPE levels for each task, and work with SUXOS to identify appropriate downgrade / upgrade situations
- Review and evaluate the air monitoring data and make decisions concerning engineering controls, work practices, and levels of PPE
- Reviews the daily quality control (QC) reports and any accident/incident/near miss reports
- Serves as a member of the contractor's QC staff.

#### **4.2.3. KEMRON Field Management**

### **KEMRON Senior UXO Supervisor: John Stine**

The SUXOS will be responsible for overseeing and implementing overall project operations including MEC avoidance and removal operations. The SUXOS has the following responsibilities.

- Evaluate the sites to determine the level of support that is required to safely conduct the given operation
- Oversee UXO personnel that provide explosive ordnance recognition, escort, location, and safety functions during anomaly-avoidance activities
- Make arrangements for military munitions removal or disposal actions in the event that the work area is too contaminated with MEC /material potentially presenting an explosive hazard (MPPEH) to safely allow non-UXO personnel to work in the area
- Ensure that exact location of any military munitions-related items encountered are accurately captured with the aid of a digital global positioning system, and that those coordinates are properly reported and recorded in the geographical information system
- Ensure that suspect munitions response sites are clearly marked or delineated
- Ensure that MEC safety briefings are given to all site personnel and visitors
- Take operational control of a site until properly relieved, in the event hazardous MEC or MPPEH is encountered.

### **KEMRON UXO Quality Control Specialist / UXO Safety Officer: TBD**

The UXOSO is responsible for managing, implementing, and enforcing this APP/SSHP. The UXOSO will report site-specific safety issues and concerns to the PM, SUXOS, and CHSM. The UXOSO role is considered equivalent to the Site Safety and Health Officer (SSHO) role. The UXOSO will meet the experience and qualification requirements of the SSHO. He will be responsible for ensuring daily compliance and implementation of the SSHP, including such issues as PPE, training, policy enforcement,

health monitoring, and report preparation, among others. The UXOSO is responsible for conducting the daily tailgate safety meetings, and also responsible for decontamination procedures, equipment, and supplies. The UXOSO will be on site at all times during project activities. Specific responsibilities include the following.

- Ensure that all personnel conduct project activities in accordance with the SSHP, and initiate disciplinary action for safety violations, in conjunction with PM, CHSM, and CCIH, as necessary
- Inform KEMRON and subcontractor personnel of KEMRON health and safety policies and their application to potential hazards associated with specific site operations
- Work with the CHSM, PM, and SUXOS during any modifications to the APP/SSHP
- Correct work practices or conditions that may result in injury or exposure to toxic substances
- Complete accident, injury, and illness investigation reports and notifies line management of all job-related illnesses or injuries
- Coordinate on-site emergency response activities and emergency care
- Monitor all personnel performance for compliance with safe work practices, including the SSHP
- Advise the CHSM of deviations from safe work practices and of methods to correct the problem
- Continually evaluate environmental conditions: weather, chemical, physical, etc. and recommend necessary modifications, to the PM and CHSM, to ensure personnel safety
- Conduct safety training and daily safety meetings
- Ensure that all documentation necessary for health and safety programs is generated and maintained
- May stop any activity on site and/or the entire operation when conditions immediately dangers to life and health are identified
- Ensure protective clothing used is consistent with the requirements of the SSHP
- Periodically inspects site operations, identify deficiencies, and recommend corrective actions
- Ensure that PPE are properly stored and maintained
- Control entry and exit at the access control points
- Coordinate safety and health program activities with on-site essential personnel
- Confirm each team member's suitability for work based on a physician's recommendations
- Monitor the work parties for signs of stress, such as cold exposure, heat stress, and fatigue
- Participate in implementing the SSHP
- Enforce the "buddy" system
- Set up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on site
- Control the decontamination of all equipment, personnel, and samples from the contaminated areas
- Assist in the disposal of contaminated clothing and materials;
- Ensure that all required equipment is available; advise medical personnel of potential exposures and consequences
- Is aware of emergency procedures, evacuation routes, and the telephone numbers of the plant emergency services, ambulance service, local hospital, poison control center, fire department, and police department
- Notify, when necessary, local public emergency officials
- Approve the APP/SSHP.

#### **UXO Technicians (UXO Technician I and higher)**

Each UXO team will include, at a minimum a UXO Technician III Team Leader and one UXO Technician II. Additional UXO Technicians may be added to each team as needed. The UXO Tech I and

higher will have EOD/UXO experience and qualifications as stated in Table 4.2 DDESB TP 18 (DDESB, 2016).

#### **4.3. Requirement for Competent Person Oversight**

KEMRON will provide Competent Person oversight; all applicable project work will be performed under the direction of the competent person, as required. Where an OSHA standard specifically requiring a competent person applies, a competent person will provide direction when necessary for all work performed on the job site.

The KEMRON employee who has earned certification by the American Board of Industrial Hygiene (ABIH) and the Board of Certified Safety Professionals (BCSP) is listed below. The CIH / CSP will serve in a corporate oversight capacity and will provide assistance to the SUXOS as CIH. Certification documentation for this employee is included in **Attachment 3**.

- Steven K. Fess, CIH (ABIH Reg. #5926 CP), CSP (BCSP Reg.# 9151 CP).

The OSHA 30-hour Construction Outreach course covers the requirements of 29 Code of Federal Regulations (CFR) Part 1926 along with the OSHA recordkeeping requirements of 29 CFR Part 1904. All project work will be conducted under the direction of the safety personnel. The OSHA 30-hour training completed by KEMRON personnel includes (at a minimum) the following topics.

- OSHA Act/General Duties Clauses
- 29 CFR 1904, Recordkeeping
- 29 CFR Part 1926 Subpart C: General Safety and Health Provisions
- 29 CFR Part 1926 Subpart D: Occupational Health and Environmental Controls
- 29 CFR Part 1926 Subpart E: PPE, Personal Protective and Life Saving Equipment
- 29 CFR Part 1926 Subpart F: Fire Protection and Prevention
- 29 CFR Part 1926 Subpart K: Electrical
- 29 CFR Part 1926 Subpart M: Fall Protection
- A review of other subparts under 29 CFR Part 1926 that may be used on KEMRON job sites such as—but not limited to—rigging, welding and cutting, scaffolding, excavations, demolition, materials handling and disposal, etc.

In the event that specialized training becomes necessary for other tasks, a qualified person will be assigned to oversee those duties. Any tasks that require OSHA competent person training will be determined as the SOW is later defined and approved. KEMRON maintains a large pool of competent persons as defined 29 CFR 1926. The name(s) of the competent or qualified person(s) are provided below with documentation of competency/qualification to meet the OSHA specification(s) in **Attachment 3**. The required OSHA 30-hour training completed by KEMRON personnel includes the following individual:

- Steven K. Fess, CIH/CSP                    6/21/2007.

Where an OSHA-specific competency or qualification standard is applicable, no work will be performed by KEMRON unless a designated competent/qualified person is on the job site.

#### **4.4. Pre-Task Medical Evaluations and Safety and Health Analysis**

In advance of any site activity, the anticipated procedures and duties will be reviewed for health hazards. No work will be started before a pre-task safety and health analysis. All KEMRON employees are evaluated by a Licensed Health Care Professional or physician certified in Occupational Medicine

through Marietta Occupational Health, Inc. Annual medical examinations of each employee are conducted to determine medical surveillance protocols and review examination and test results. The medical examination and surveillance is performed in compliance with 29 CFR 1910.120 (f) and 29 CFR 1926.65 (f). To properly conduct the examinations, Marietta Occupational Health personnel are provided with information pertaining to the employee's typical duties and potential exposures: hazards, types of PPE used, information from previous exams, and the guidance documents for the medical surveillance program (29 CFR 1910.120 & 134 and National Institute for Occupational Safety and Health 85-115).

Annual medical examinations will be conducted for all employees, with these exceptions: if personnel develop symptoms indicating an exposure, on a specific schedule determined by the physician, or upon termination or job reassignment. Each medical exam will consist of an individual's baseline health status and exposure history, susceptibility to hazardous materials or substances, ability to wear and function in PPE, and overall fitness and ability to perform assigned duties.

Based on the results of the medical evaluation, the physician will provide a written opinion for each employee. The report will be submitted to the CHSM. The physician's opinion will include the verification of the employee's fitness to perform his/her assigned duties and recommendations for individual limitations, the physician's opinion about the risk of exposure for employees, and a statement that the employee has been informed and advised about the results of the exam.

The analysis includes evaluating the potential hazards and the risks associated with those hazards. Protective measures are then incorporated into the scope and applicable WPs (i.e., APP and associated WPs). Each worker will be able to record identified hazards (either anonymously or by recording their name) on a daily check sheet to ensure that employees remain engaged in evaluating their work area and activities. The observations are then assessed by the PM or SUXOS to determine appropriate actions to address the concerns identified.

## **5. SUBCONTRACTORS AND SUPPLIERS**

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KEMRON anticipates using subcontractors during work on this project; however, all subcontractors that will be used during the entirety of the AOI North of Castner Range project have not yet been identified. It is intended that KEMRON will conduct a majority of the project work including: material sampling, site inspections, clearance, and site restoration. Records will be updated as new subcontractors are approved to work at the AOI project site. The list of potential subcontractors for upcoming work during the project may include but is not limited to:

- Gilbane Federal (Gilbane);
- Surveying contractor – to be determined (TBD);
- Analytical laboratory – Test America, Denver
- Fencing contractor – Guadalupe Mountain Fencing, LLC.

All subcontractors, visitors, and other site personnel must check in with the SUXOS to verify that all appropriate entry requirements are met. Each subcontractor and visitor must enter their name, time on and off site, and dates on site in the sign-in log. All visitors will be briefed on the potential hazards and safety requirements. The SUXOS will monitor subcontractor operations to ensure compliance with site safety requirements. The SUXOS will consult with KEMRON's CHSM if questions arise. A common stock of required PPE will be maintained on-site at all times for use by visitors.

Subcontractors will be responsible for the training of and safety and health of their employees and to ensure compliance with the requirements of this APP. Subcontractors must also adhere to the following requirements.

- Subcontractors will submit all applicable training documents before mobilization
- Subcontractors must adhere to all applicable site safety requirements set forth in this APP. This will involve consideration of the nature, location, and duration of their work tasks
- Subcontractors will be responsible for reviewing their assigned tasks for potential hazards and appropriately protecting their employees from potential hazards. In some cases, subcontractors will be required to submit task specific safety plans to the SUXOS before starting work
- Subcontractors must attend daily safety meetings and/or briefings on anticipated hazards and safety requirements designed to mitigate those risks
- All subcontractors will participate in all scheduled health and safety meetings and training sessions
- All subcontractors will be responsible for their work activities and be available to participate in routine safety and health audits and site inspections
- All unsafe conditions, behaviors, equipment damage, injury events, and problems identified will be reported by the subcontractor to the SUXOS.

## **6. TRAINING**

All KEMRON employees, subcontractors' employees, and site visitors will be trained in accordance with the requirements of this APP. All new KEMRON employees will attend a safety and health orientation training session before work assignment. For all tasks, appropriate training will include briefings by the SUXOS on site hazards and work rules. In addition, the UXOSO will require evidence of prior completion of mandatory training as applicable to the specific employee duties. The UXOSO will maintain a file of training certificates or other documentation verifying that the applicable requirements have been met.

### **6.1. General Training**

KEMRON's company orientation training includes an initial 40-hour HAZWOPER course and medical examination by a licensed health care professional. A summary of the KEMRON training topics, content, and frequency of training is summarized in the table below.

**Table 6-1  
General Training Table**

<b>Topic</b>	<b>Summary</b>	<b>Initial Schedule</b>	<b>Frequency</b>
Corporate Environmental Health and Safety (EH&S) Manual	Review entire contents of manual	Within 90 days of hire	Initial with annual refresher and at each revision
HAZWOPER	Review requirements of 29 CFR 1910.120(e)(8)	Before assignment on HAZWOPER site	Initial and annual refresher
HAZWOPER Supervisor	Review requirements of 29 CFR 1910.120(e)(4)	Before assignment as HAZWOPER supervisor	One time initial
Medical Surveillance Certification	Must meet requirements of 29 CFR Part 1910	Before assignment on HAZWOPER site	Initial and annual reevaluation
Drug-Free Workplace (DFWP) and Substance Detection	Program requirements and testing protocols	Within 6 weeks of hire	At hire and annually thereafter
PPE	Selection, use and maintenance	At time of assignment of PPE	Initial and annual refresher
Hazard Communication	Labeling; safety data sheets (SDS) overview; hazardous materials identification; exposure hazards	Within 90 days of hire	Annual refresher and whenever new materials or new SDSs are introduced
Lockout/Tagout (LOTO)	Awareness and recognition for all affected and other employees  “Authorized Employees” require additional training	At time of assignment of work involving LOTO  Before work assignment	Initial and annual refresher  Initial and annual refresher
Trenching/Excavation	Overhead/underground utility hazards; elevated work/fall protection; comprehensive site evaluation as it applies to excavation, sloping/shoring requirements; and other topics as defined in the EH&S Manual	Awareness level within 90 days of hire  Competent person training where specifically required by work assignment	Initial and annual refresher  Initial

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<b>Topic</b>	<b>Summary</b>	<b>Initial Schedule</b>	<b>Frequency</b>
Fire Extinguisher Use	Hazard recognition; extinguisher location and use; emergency notification and evacuation procedures; PPE requirements	Within 90 days of hire	Initial and annual refresher
Electrical Safety	Awareness level for all employees - hazards, powered hand tools and use of ground fault circuit interrupters  “Qualified” employees – LOTO for electrical applications and as specified by OSHA	Awareness level within 90 days of hire  Before assignment	Initial and annual refresher  Initial and annual refresher
First Aid/CPR	For employees providing first aid at HAZWOPER sites	Before assignment	CPR – annual, first aid – every 3 years
Hearing Conservation	Noise effects on hearing; purpose of hearing protection; types, selection, fitting, use, maintenance and care of hearing protectors; purpose and explanation of audiometric testing	Before assignment involving exposure at or above 85 decibels 8-hour time weighted average	Initial and annual refresher
Bloodborne Pathogens	Requirements of OSHA standard; KEMRON’s Control Plan; hazard recognition; controls, work practices & PPE; hepatitis B vaccine; appropriate response actions; signs/labels	Within 90 days of hire	Initial and annual refresher
Elevated Work - Fall Protection	Awareness level for all employees - what triggers the need for fall protection; recognition of elevated work and fall hazards  Employees using fall protection devices - inspection and use	Within 90 days of hire  Before assignment	Initial and annual refresher  Initial and annual refresher
Hand and Portable Power Tools	Specific to the tool to be used; instruction in all tools being used	Before assignment	Initial and annual refresher
Ladder Safety	Awareness level for all employees - ladder inspection and use, ladder selection, safety protocol	Before assignment involving use of ladders	Initial and annual refresher
Hazardous Materials Transportation	Employees who prepare or offer for shipment, U.S. Department of Transportation hazardous materials by any mode	Before assignment involving shipment of hazardous materials	Initial and annual refresher
Chemical Specific Hazards	Employees whose work includes potential exposure to chemicals subject to specific OSHA standards (e.g., toxic metals, asbestos, benzene, etc.)	Before assignment involving potential exposure to substances regulated by OSHA chemical-specific standards (29 CFR 1910)	Minimum initial and annual refresher, or as otherwise required by the specific standard

<b>Topic</b>	<b>Summary</b>	<b>Initial Schedule</b>	<b>Frequency</b>
Project Health and Safety Planning	All employees on project site – entire contents of plan	At project initiation	When plan is modified

## **6.2. Site Safety Training and Meetings**

All KEMRON employees, subcontractors' employees, and site visitors will be provided ongoing safety training as appropriate to enable them to perform project tasks in a safe manner.

### **6.2.1. Daily Safety Meetings**

The UXOSO will conduct daily meetings at the start of each shift for all KEMRON employees, subcontractors, and site visitors. The meetings are intended to ensure that all project personnel understand site conditions and operating procedures, that PPE is being used correctly, and to address worker health and safety concerns. All new amendments to the SSHP will also be reviewed at these meetings. Any issues identified during the active operations will be discussed and resolved. Meeting attendance will be recorded on the sign-in sheet and maintained in the project file. These meetings will incorporate safety and health topics for the day's activities and may include:

- Daily SOW,
- Overview of all applicable AHAs,
- Required PPE, and
- Safe work practices.

The anticipated hazards and the specific tasks expected under the SOW are summarized in the AHA forms in the SSHP, **Attachment 1** to this APP. These forms ensure compliance with the revised OSHA standard 29 CFR 1910.132, which requires assessment of tasks and operational hazards where PPE is required to protect personnel. Each form contains task-specific information related to hazard control and mitigation, including: specific engineering control measures if applicable, SOPs, equipment requirements, specialized training requirements, and PPE requirements.

### **6.2.2. Supervisory Safety Meetings**

The UXOSO will conduct periodic supervisory safety meetings with designated workers as deemed appropriate because of tasks that may require additional safety training, or for modified AHAs. The supervisors safety meetings will be held before operations where additional hazardous are present and were not formerly addressed by AHAs. The supervisory safety meetings will be held on a weekly or as needed basis, as determined by the SUXOS and/or the PM.

## **6.3. Mandatory Training and Certifications**

Mandatory training and certifications have been identified for the expected tasks under this contract. The UXOSO will verify that the following training courses have been completed by the personnel indicated.

- **Forty-hour course on health and safety in hazardous waste operations and emergency response.** Evidence of training as a site worker in accordance to 29 CFR 1910.120 is required for site workers and visitors potentially exposed to chemical, radiological, or ordnance hazards. Evidence of a recent annual refresher course also is required.
- **Eight-hour course on supervision of hazardous waste operations.** Evidence of training as a supervisor in accordance with 29 CFR 1910.120 is required for KEMRON supervisory and management personnel.

- **Thirty-hour OSHA Construction Outreach class.** The CIH SUXOS and UXOSO at a minimum, must show evidence of this training or an equivalent 30 hours of formal construction safety and health training covering the required subjects of the OSHA 30-hour. The UXOSO must also meet all requirements of EM 385-1-1, Para 01.A.17.
- **OSHA 1926 Subpart P, Excavation Safety.** Any personnel supervising excavation and trenching work will have competent person training as required by OSHA CFR 1926 Subpart P.
- **First Aid / CPR.** Evidence of current certification in first aid / CPR will be required for a sufficient number of KEMRON employees to permit scheduling of at least two (2) personnel with this training on the project site at all times. Procedures to manage bloodborne pathogens should be a component of this training.
- **Hazard communication (HAZCOM).** Hazard communication training is required for all KEMRON employees. Project-specific HAZCOM training will be provided to all site workers.

#### **Military Munitions Response Program-Specific Training**

- **UXO Technical Training:** UXO personnel must be a graduate of approved explosives ordnance disposal (EOD) training program (documentation of this training is maintained by the KEMRON Human Resources [HR] Office) including:
  - U.S. Naval Explosive Ordnance Disposal School, Eglin Air Force Base, Florida;
  - U.S. Army Bomb Disposal School, Aberdeen, Maryland;
  - EOD Assistant Course, Redstone Arsenal, Alabama; or
  - U.S. Department of Defense certified equivalent.
- **Explosive Safety Training:** The Demolition Supervisor is a qualified UXO Technician III and evidence of explosives demolition experience will be provided. This individual is certified by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) in accordance with ATF P 5400.7 Employee Possessor Certification.
- **Site Supervisor Training SUXOS / UXOSO:** The SUXOS and the UXOSO will complete the OSHA 1910.120, Hazardous Waste Site Supervisors 8-hour course.
- **Operational Specific Training Certifications and Records:** The UXOSO maintains current records of site training and verifies the training status of all on-site personnel. Records are kept to ensure identified personnel receive appropriate initial health and safety training and annual refresher courses. Mandatory records for initial OSHA 1910.120 and 8-hour annual refresher training, EOD qualification certificates, and any licenses or certificates associated with the use of explosives will be maintained on site for regulator and client review. Response-action contractors and visitors also provide the UXOSO evidence of health and safety training before site entry is authorized.

In addition, the SUXOS will determine whether new employees have previous experience on a hazardous waste or ordnance site. They will arrange for close supervision of inexperienced workers by an experienced supervisor for at least their first three (3) days of work on the site.

A detailed presentation on site risks and the workplace site safety and health and safety program will be conducted by the PM or SUXOS before work commences on the site, and at other times when new site workers arrive. Topics will include the following.

- Requirements and responsibilities for maintaining a safe work environment
- General safety and health policy and procedures
- Employee and supervisor responsibilities for reporting all accidents / incidents
- Emergency response plans and procedures for obtaining medical treatment
- Procedures for reporting and correcting unsafe conditions or practices
- Specific job hazards and the means to mitigate the risks

- Names of and contact information for those responsible for safety program administration
- Site hazards, hazard recognition, and symptoms of excessive exposures
- Proper use of required PPE
- Safe use of engineering controls and equipment on the project site.

In addition, the SUXOS will provide detailed safety training in the following areas to workers exposed to the chemical hazard described.

- **Chemical hazard communication.** If chemicals are brought onto the job site, employees potentially exposed to their hazards will receive appropriate safety training. This will include the details of the chemical hazard communication program described in the accompanying SSHP.

The SUXOS will confer with KEMRON's CHSM to determine an appropriate schedule for retraining employees on site-specific safety topics. Annual or more frequent refresher sessions will be required.

#### **6.4. Periodic Safety and Health Training**

Refresher training will be provided as required.

- 8-hour HAZWOPER Annual Refresher training per 29 CFR 1910.120(e). All project staff will receive training to maintain their 40-hour General Site Worker certification
- First-aid training will be renewed every 3 years and CPR training, either Red Cross, National Safety Council, or the American Heart Association will be updated every 1 to 2 years, respectively, by all project staff
- HAZCOM training will be refreshed annually by all project staff
- Respiratory protection/respirator fit testing will be refreshed annually by all project staff
- At the beginning of the project and whenever needed, all new project staff will receive site orientation training
- If conditions change that necessitate compliance with additional OSHA or project-specific requirements, required training will be provided to address any new issues.

#### **6.5. Emergency Response Training**

Employees will be trained for emergency response situations or conditions as detailed in **Section 12.3**.

#### **6.6. PPE Training**

All KEMRON employees and subcontractors will be appropriately trained by the UXOSO regarding the site specific/task specific PPE requirements. The PPE selection will be discussed with all employees and subcontractors during daily safety meetings. The following will be discussed during the daily safety meetings.

- When PPE is required
- SOW and what types of PPE are required
- Proper donning, doffing, and use
- Limitations of PPE
- Care, inspection, testing, maintenance, useful life, storage, and disposal of PPE.

If the KEMRON SUXOS or UXOSO has reason to believe that any employee or subcontractor does not have an appropriate understanding of the use and care of PPE, then that individual will be retrained by the UXOSO. KEMRON will document all PPE training conducted on site and off site.

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Each employee or subcontractor will receive written training documentation which indicates:

- The name of the employee,
- Date of training,
- Subjects taught, and
- The signature of the employee who received the training.

## **7. SAFETY AND HEALTH INSPECTIONS**

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### **7.1. Inspection Responsibilities**

Daily job site safety and health inspections will be conducted by the UXOSO to verify that site operations and personnel are complying with this APP and the accompanying SSHP. Safety and health inspections for activities that require a competent person under OSHA will be performed by the competent person on site. The results of these inspections will be recorded in the safety log and reported to the PM. All inspections will be documented in the safety log. Any deficiencies will be noted and corrective action will be assigned and recorded. The safety logs will be provided with the daily QC reports. Each safety log will include the date, project area, special safety, health topics, and signature.

The PM will direct that any violation of the site safety program be corrected immediately, and he will stop work if any condition places employees at unacceptable risk. He will confer with the CHSM and/or CCIH if unsafe conditions cannot be corrected promptly, or if violations to project safety requirements occur repeatedly.

The Corporate Safety Department will investigate every accident, injury, or near-miss event, and prepare a formal report of the incident for review by the CHSM. The formal report will include the following information.

- Date of incident
- Description of incident
- Names of employees involved in incident
- Corrective action determination
- Date of corrective action implementation
- Verification of corrective action.

After formal reports are issued, the Corporate Safety Department will conduct follow-up inspections to validate that the corrective actions have been implemented and that these actions are effective in preventing recurrences. Follow-up activities may include but are not limited to the following.

- Conducting and evaluating the effectiveness of retraining
- Conducting periodic inspections of the task where deficiencies were noted to ensure proper techniques are now implemented
- Reviewing safe work procedures during daily tailgate meetings to promote awareness of deficiencies.

### **7.2. Deficiency Tracking**

A safety and occupational health deficiency tracking system that lists and monitors the status of safety and health deficiencies in chronological order will be maintained by the UXOSO and will be maintained at the project location. It will be updated daily with the following information.

- Date deficiency identified
- Description of deficiency
- Name of person responsible for correcting deficiency
- Projected resolution date
- Date actually resolved.

The SUXOS will initially establish an inspection schedule that will efficiently cover the inspection requirements for UXO operations, as outlined in **Table 7-1**. The UXOSO will be responsible for conducting the required inspections as outlined in **Table 7-1** with the support of the UXOQCS. Safety and health inspections for activities that require a competent person under OSHA will be performed by the competent person on site. The results of these inspections will be recorded and reported to the PM. All inspections will be documented in the safety log.

**Table 7-1  
UXO Operations Inspections Table**

<b>Description</b>	<b>Amount</b>	<b>Type</b>	<b>Frequency</b>
Location Surveying and Mapping	1	Visual Observation	Daily
Surface/Subsurface Clearance	1	Visual Observation	During Operations
Anomaly Investigation/Excavation	2x	Visual Observation	During Operations
Munitions Constituents Sampling	1	Visual Observation	During Operations
Fencing and Signage Installation	1	Visual Observation	During Operations
Transportation of Explosives	1	Visual Observation	During Operations
UXO Disposition	1	Visual Observation	During Operations
Inert UXO and Related Scrap Turn-In	1	Visual Observation	Daily
Personal Protection	1	Visual Observation	Daily
Work Practices	1	Visual Observation	Daily
Site Control	1	Visual Observation	Daily
Emergency Response/First-Aid Equipment	1	Visual Observation	Weekly

### **7.3. External Inspections**

USACE OESS will conduct periodic safety compliance reviews throughout the duration of field work.

## **8. PROGRAM GOALS, INCENTIVE PROGRAMS, AND COMPLIANCE**

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### **8.1. Company Safety Goals**

KEMRON places the highest priority on a safe working environment. To substantiate its commitment, KEMRON has developed and implemented a corporate ES&H Manual that provides the following general health and safety guidance for:

- Qualified individuals performing munitions response MEC operations
- Qualified individuals performing hazardous, toxic, and radioactive waste (HTRW) operations; and
- Approved visitors to a site potentially containing MEC or HTRW.

The KEMRON safety policy is to have a safety program that meets federal 29 CFR 1910.120 (b), 29 CFR 1926.65 (b), and or other local regulations as applicable. The policy, purpose, and goal of KEMRON's Safety and Health Program are the elimination and/or reduction of accidents that endanger worker, public, and environment.

### **8.2. Safety Incentive Programs**

KEMRON has implemented safety incentive programs that reward safe behaviors exhibited by employees such as "Caught in the Act...of Safety" celebrations to recognize excellence in safety performance, and project-based safety awards when project safety goals are met or exceeded. Additionally, KEMRON uses a safety recognition program to give employees an opportunity to be awarded a cash prize if one of the following occurs.

1. The project team has no accidents or injuries during the month
2. The team has been nominated for safe work practices, by a co-worker, client, or visitor.

### **8.3. Non-Compliance**

All employees working on the project are expected to comply with the safety and health requirements described in this APP and the SSHP. All employees and site visitors will be informed of and comply with the rules and regulations of the APP. In the event that an employee does not comply with the safety and health requirements the PM or SUXOS will meet with the employee, clearly define the deficiency to the employee, the impact of the deficiency, and discuss the corrective actions that will be taken to correct the issue and the timeline for the action.

All deficiencies and corrective actions will be recorded in the project record by the PM or SUXOS. The SUXOS will follow up within a designated time to determine if the deficiency has been addressed. If the employee fails to correct the deficiency, disciplinary action(s) will be taken ranging from written reprimand through termination of the employee.

In the event an unsafe condition is identified, all employees are empowered to take corrective action to immediately rectify the condition. If the unsafe condition continues to exist, the PM and SUXOS will be notified. All personnel working on site are expected to participate in this hazard-notification process. Once the issue has been noted, the SUXOS will conduct an investigation to evaluate the deficiency and correct it. The findings and corrective actions will be noted on a KEMRON Accident/Incident Report form that will be submitted to project management, including the PM and CHSM for review.

#### **8.4. Accountability for Safety**

Compliance to the SSHP and this APP is mandatory at all levels including staff, supervisors, and corporate personnel. Individuals found to be responsible for unsafe acts or conditions may be disciplined and/or released from employment. Depending upon the severity of the safety violation or based upon a pattern that demonstrates lack of commitment to KEMRON's safety goals and priorities, more serious disciplinary action may be taken, up to and including termination of employment

Any employee, including managers and supervisors, determined to be in violation of KEMRON's safety policies, including basic safety and health rules of this APP, will be subject to disciplinary action in accordance with KEMRON's progressive disciplinary policy. Discipline actions for unsafe acts or for perpetuating an unsafe condition will be recommended by the next-in-line supervisor to determine the appropriate action.

## **9. ACCIDENT REPORTING**

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### **9.1. Exposure Data**

The exposure data (man-hours worked) will be provided to the PM by the SUXOS or his/her designee at regular intervals. The PM will prepare any required reports and the information will be provided to other parties as requested on an as-needed basis. This information will be used to calculate the KEMRON OSHA recordable incident rates for the calendar year.

### **9.2. Accident Investigations, Reports, and Logs**

The KEMRON PM and SUXOS will be notified immediately if worker exposures, accidents, or site conditions not anticipated in this document are encountered. Within 24 hours of an accident or incident, the SUXOS will notify KEMRON's CHSM. Accidents will be investigated to identify root cause(s) and establish corrective measures to prevent recurrence.

Accident / Incident Reports to the Contracting Officer (KO) and USACE Project Manager (PM) will be completed as soon as possible, but not more than twenty-four (24) hours after the event. KEMRON will investigate the incident and submit the finding and corrective actions within five (5) working days of the incident. Corrective actions will be implemented as soon as reasonably possible. Notification to the U.S. Army Corps of Engineers (USACE) will use ENG Form 3394.

The SUXOS, with the assistance of the UXOSO, will investigate every accident, injury, or near-miss event, and prepare a formal report of the incident for review by the manager of health and safety. The formal report will include the following information.

- Name and title of the person reporting
- Date of incident
- Description of incident
  - Summary
  - Cause
  - Damages
- Names of employees involved in incident
- Corrective action determination
- Date of corrective action implementation
- Verification of corrective action.

### **9.3. Immediate Notification of Major Accidents**

Immediate notification of incidents will be required under these circumstances.

- A fatal injury
- Permanent total or partial disability
- Hospitalization of three (3) or more people resulting from a single incident
- Property damage exceeding \$200,000 or more. Report all work-related fatalities within 8 hours and report all work-related, in-patient hospitalizations, amputations, and loss of an eye within 24 hours to OSHA
- Arc flash incident/accident
- US Government aircraft destroyed or missing

**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
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El Paso, Texas**

- Three or more individuals become ill or have a medical condition that is suspected to be related to a site condition, or a hazardous or toxic agent on the site.

If required, an OSHA Form 301 will be completed by the KEMRON CHSM in consultation with the SUXOS and PM.

## **10. PERSONAL PROTECTIVE EQUIPMENT**

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This section details the specific levels of PPE that may be required or used to complete project activities. All site personnel will be trained (or have documented training) in the use of all PPE used. For the site work during completion of the contract, the majority of the site work is expected to be completed in Modified Level D PPE. However, an upgrade to Level C PPE is the contingency PPE level in the event of respiratory hazards due to the environmental work at the site.

### **10.1. Description of Protection Levels**

Engineering controls will be employed to eliminate and/or minimize exposure potential to the extent practicable. Where engineering controls alone cannot reduce exposure potential to less than published exposure limits, PPE will be employed. The appropriate action level of PPE for each task outlined in the SSSH is included as **Attachment 1**.

#### **LEVEL C (Not Expected)**

Level C is not anticipated for this site. Level C is only be used when air monitoring confirms that an upgrade in respiratory protection and/or dermal protection is warranted. The determination for upgrade to Level C will be at the discretion of the PM, CHSM, and/or SUXOS.

#### **MODIFIED LEVEL D**

Modified Level D is the secondary level of PPE designated for many of the individual project tasks for the site. The assignment for Modified Level D is appropriate as an upgrade from Level D where additional protection is warranted from potential contact with impacted materials. Modified Level D will provide the appropriate skin protection when typical dermal exposure is expected.

#### **ADDITIONAL EQUIPMENT:**

- Chemical resistant clothing when contact with contaminated media is possible (one- or two-piece chemical splash suit, disposable chemical-resistant one-piece suit).
- Inner (such as nitrile sample gloves) and outer (such as cloth, leather, or chemical-resistant) gloves depending on the application.
- Chemical-resistant composite toe boots or disposal boot covers.
- Hard hat (Class C), when an overhead hazard is present or working around heavy equipment.
- Safety glasses with side shields, chemical splash goggles, or face shield.

#### **PROTECTION PROVIDED:**

- Protection from dust and incidental contact with chemicals or contaminated surfaces or where respiratory hazards have been characterized to below established exposure limits or site action levels.

#### **SHOULD BE USED WHEN:**

- The atmosphere contains no immediate hazard.
- Work functions involve splashes or immersion.
- Modified Level D should be used when no atmospheric hazards exist but potential for dermal exposure is expected.

#### **LIMITING CRITERIA:**

- Modified Level D should only be worn where respiratory hazards have been characterized and determined to be below established exposure limits or site action levels.
- May not be used in areas where respiratory hazards exist or may be expected to develop.

**TRIGGERS RESULTING IN UPGRADING PPE:**

- Potential for dermal contact where Modified Level D is no longer appropriate and an outer suit is necessary.
- Modifications to SOW or task where potential exposure is increased and PPE is no longer appropriate.
- New monitoring information indicating that suspected respiratory hazard mandates upgrading PPE.

**LEVEL D**

Level D is the primary level of PPE designated for many of the individual project tasks for the site. Level D will be used in any non-contaminated active work areas of the site including the support zone, during construction of site support facilities, during mobilization, during site restoration, and demobilization. Level D is considered the minimum level of protection acceptable for use at the site. The assignment for Level D is based on minimal contact with the impacted media. Level D will provide the appropriate, however minimal, skin protection when dermal exposure is expected. The contingency level of PPE is Modified D for situations where additional protection is necessary.

**EQUIPMENT REQUIRED:**

- Fire resistant coveralls/uniform.
- Composite-toe work boots.
- Safety glasses with side shields.
- Hard hat (Class C), when an overhead hazard is present or when working around heavy equipment.
- Hearing protection.

**OPTIONAL:**

- Gloves (cotton or leather palm work).
- Tyvek suit (plain).

**PROTECTION PROVIDED:**

- Level D provides minimal skin protection for dermal contact. Modified Level D provides increased skin protection.

**SHOULD BE USED WHEN:**

- The atmosphere contains no known hazard.
- Modified Level D should be used when no atmospheric hazards exist but potential for dermal exposure is expected.

**LIMITING CRITERIA:**

- Level D should not be worn in the exclusion or contamination reduction zone (unless deemed acceptable by SUXOS).
- No respiratory protection provided.

**TRIGGERS RESULTING IN UPGRADING PPE:**

- Potential for dermal contact where Level D is no longer appropriate, and/or protective suit is necessary.
- Modifications to SOW or task where potential exposure is increased and PPE is no longer appropriate.
- New monitoring information indicating that suspected dermal hazard mandates upgrading PPE.

## **10.2. Activity Hazard Assessment Procedures**

Each project task has been assigned a PPE Level in the AHAs, which are included in **Attachment 1**. According to the site-specific conditions. The CIH and UXOSO will determine the most appropriate PPE requirements for the given task and modify the AHAs accordingly. Documentation of PPE-level modifications will be made by the SUXOS and retained in the project file.

Activity hazard assessments will typically be conducted by task assessment and air monitoring to determine the appropriate action level of PPE for each task outlined at the onset of each task. However, based on the individual task and potential exposure routes, the hazard assessment method or air monitoring media will be modified to provide applicable data.

## **10.3. Certifications of Personnel using Personal Protective Equipment**

KEMRON employees performing tasks requiring the use of respiratory protective equipment must pass a annual or bi-annual (determined by the physician's assessment) physical examination that includes a pulmonary function test as set forth under OSHA CFR 1910.134 and USACE EM 385-1-1 Sec. 5(G) (USACE, 2014). Results from physical examinations are maintained by KEMRON. Subcontractors must provide current medical records for employees requiring PPE. The UXOSO will determine the capabilities of subcontractor employees to don PPE. A copy of the medical clearance for each employee is included in **Attachment 3**. Likewise, a fit-test will be conducted for each employee (by the CIH, or UXOSO trained to administer the FIT Test) prior to the initial use, annually, or when changes in mask model, size, or respirator type is realized.

## 11. PLANS AND PROCEDURES REQUIRED BY THE USACE SAFETY AND HEALTH REQUIREMENTS MANUAL

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This section provides a list of plans and procedures that may apply to the project as required by Section 9 of Appendix A in EM 385-1-1 (USACE, 2014).

### 11.1. Fatigue Management Plan

Based on the SOW, a plan for worker fatigue is not required.

### 11.2. Emergency Response Plans

#### 11.2.1. Procedures and Tests

In the event that an emergency occurs, the appropriate emergency service organization will be contacted by the SUXOS. Lists of emergency contacts are provided in **Section 10.0** of this APP. A map to the nearest emergency medical facility will be posted at the work site and be maintained in all KEMRON and subcontractor vehicles at all times. Before beginning work at the site, the Emergency Response Plan will be tested by conducting appropriate drills. Employees will be briefed on the content of this APP and employees will become familiar with the information. The SUXOS must be notified of any situation as soon as possible to help lead the appropriate actions. The PM and CHSM will be notified of any accident or injury that occurs on a job site. The emergency meeting location (rally point) for the project site is the Bowen Ranch, illustrated on **Figure 2-2**.

#### 11.2.2. Emergency Response Plan (Spills)

This Spill and Discharge Control Plan has been developed to prevent the contamination of soil, water, atmosphere, uncontaminated areas, equipment, or material by the uncontrolled release of hazardous waste and materials during field operations involved in this project. If hazardous or unknown potentially hazardous materials are unexpectedly spilled during project work activities, evacuate and secure the area (to keep out all personnel). KEMRON will follow the spill response procedures below.

1. Immediately report ALL spills (no matter how small) to the Fire Department at 911 and/or the COR.
2. Safety of personnel and protection of life take precedence over environmental protection and equipment damage.
3. Stop the release, if safe to do so.
4. Contain the spill with absorbents, booms, and pads.

Off-site medical and emergency response support will be coordinated with the El Paso Fire Department / 911 response system before beginning field work. All non-emergency correspondence to the fire department will be through the COR. In the event of an emergency, 911 will be notified.

#### Accountability

In the event of an evacuation, all employees, subcontractors, and site visitors will be accounted for by the SUXOS. The personnel and visitors sign-in logs will be used to accurately account for all personnel. The SUXOS will coordinate activities with all subcontractors to account for all on-site personnel. All subcontractor personnel are required to sign in on the daily work log.

## **Responsibilities**

The Emergency Response Plan will include an evaluation of the AHAs developed under the direction of a CIH or other competent person. AHAs include hazard controls.

The KEMRON emergency responses responsibilities are as follows.

- SUXOS and UXOSO will be available for all KEMRON employees, subcontractors, and site visitors to contact for information and clarification of the Emergency Response Plan.
- The UXOSO will be responsible conducting the daily safety meetings at the project site. During these meetings, KEMRON employees will be assigned roles and duties for emergency response activities. The UXOSO will identify evacuation routes in the daily meeting held in an upwind location, based on the location of work to be used in case of an evacuation. The UXOSO is also responsible for posting all emergency contact phone numbers and addresses. The UXOSO will be responsible for communicating the location of this information with all KEMRON employees, subcontractors, and site visitors and conducting a test of the emergency procedures to ensure effectiveness.
- The UXOSO will be responsible for insuring all safety information is posted on the site Safety Bulletin Board, and is updated in a timely manner.
- The PM will ensure that the COR approves the emergency response procedures and reviews the hazard evaluation program for each WP.
- A CIH or other competent person, with input from site workers, will evaluate the operations, materials, and equipment that may involve potential exposure to site workers and develop appropriate hazard evaluation and Emergency Response Plans. AHAs for operations, activities, and any other hazards are included in Exhibit A of the SSHP. Suggestions from field personnel for AHA revisions are readily reviewed or approved by qualified personnel as indicated on the AHA forms.

For large spills of hazardous materials, a Hazardous Materials Response Team may need to be contacted to limit exposures to site personnel and/or the surrounding area or community. The following measures will be implemented to minimize the likelihood or severity of a hazardous materials spill.

- The use of hazardous materials will be minimized to the extent practicable.
- Hazardous materials will be stored in a specified location within secondary containment.
- Spill response kits will be stored wherever hazardous materials are used, shipped, or stored.
- Workers will be trained to use the spill kits by conducting scale tests to ensure their effectiveness.
- Workers will be trained on the proper steps to follow in case of a hazardous material spill.

The SUXOS will conduct “spill response drills” to mimic an actual event as a means of determining the proper personnel training and response. The AOI North of Castner Range project site map illustrating a current emergency meeting location, or rally point, is included in **Figure 2-2**. The emergency routes and meeting locations may be updated as site conditions change. The UXOSO will identify evacuation routes at the daily meeting in an upwind location, based on the location of the work.

Spill response equipment will be inspected and maintained as necessary to replace any materials used in spill response activities. Regardless of the type of spill (liquid or solid), the following measures will be taken to isolate the spilled material.

- The SUXOS and UXOSO will be notified immediately when a spill, or the threat of a spill, is observed.
- The SUXOS and UXOSO will assess the situation and determine the appropriate response.

- The SUXOS and UXOSO will evaluate the situation to ensure it is safe for personnel to begin cleanup operations.
- The SUXOS will assign the level of protection to be worn by the spill response personnel.
- All required supplies will be assembled and positioned such that they are readily available to the spill response personnel.
- Spill response personnel will take measures to stop the spill and will, if applicable, use an absorbent or adsorbent to collect the spilled material.
- Isolate and contain the spill area.
- Restrict access of unauthorized personnel.
- Prevent contact with the spilled material.
- Relocate personnel upwind and upgradient of the spilled material.
- Take air, soil, or other appropriate samples to determine if cleanup is complete.
- Prepare a spill report containing:
  - Description of the material spilled including identity, quantity, and a copy of any waste manifests or bills of lading. Identify the cause of the spill. (If possible, SDSs for spilled material and material used to clean it up will be included in any spill reports generated.)
  - Exact time and location of the spill and a description of the area involved.
  - Containment procedures used.
  - A description of the corrective actions implemented during the spill, including the disposal of the cleanup residues.
  - A summary of the communications between KEMRON and the COR.

In the event of a spill or release of a solid material, KEMRON will remove and place contaminated materials in an appropriate drum with a cover. The container should be appropriately labeled and disposed of as soon as possible. In the event of a spill or release of a liquid KEMRON will absorb the liquid using an appropriate absorbent material. The absorbent material will be placed in an appropriate drum with a cover. The container should be appropriately labeled and disposed of as soon as possible.

In the event of a discharge of liquid into the soil, the SUXOS or his/her designee will immediately identify the location of the discharge and take appropriate remedial actions to eliminate further spillage. The discharged liquid material will be controlled and disposed of as described above. In all other situations such as fires or catastrophic incidents beyond their level of training and competency, employees will be trained to take the following actions.

- Notify emergency personnel
- Activate any alarm system(s)
- Follow evacuation procedures, specified routes, proceed to the agreed upon meeting places, and assure accountability for all personnel
- Use of—and when to use—a fire extinguisher
- Use of first aid/CPR
- Rescue operations as necessary.

#### 11.2.3. Emergency Response Plan (Fires)

This Fire Response and Prevention Plan has been developed to prevent personal injury and site or equipment damage during field operations conducted for this project. The SUXOSO will be responsible for reviewing the emergency response procedures with all affected employees. Emergency response escape routes for the site and protocols during and after emergency situations will be discussed during the

daily tailgate safety meetings. Chemical inventories developed under the project-specific hazard communication program will be reviewed with all site personnel.

The SUXOS will conduct “fire response drills” to mimic an actual emergency event as a means of determining the proper personnel training and response. The AOI North of Castner Range project site illustrating a current emergency meeting location, or rally point, is included in **Figure 2-2**. The emergency routes and meeting locations may be updated as site conditions change. The SUXOS will identify evacuation routes at the daily meeting in the upwind direction, based on the location of the work.

### **Emergency Contact Information**

See Section 10.0 for emergency contact information.

### **Accountability**

In the event of an evacuation, all employees, subcontractors, and site visitors will be accounted for by the SUXOS. The sign-in log will be used to accurately account for all personnel. The SUXOS will coordinate activities with all subcontractors to account for all on-site personnel. All subcontractor personnel are required to sign in on the daily work log.

### **Responsibilities**

The Emergency Fire Response Plan will include an evaluation of the AHAs developed under the direction of a certified industrial hygienist, or other competent person. AHAs include hazard controls. The KEMRON emergency responses responsibilities are as follows.

- SUXOS will be available for all KEMRON employees, subcontractors, and site visitors to contact for information and clarification of the Fire Emergency Response Plan.
- UXOSO will be responsible conducting the daily safety meetings at the project site. During these meetings, KEMRON employees will be assigned roles and duties for emergency response activities due to fire. If an evacuation is necessary, the PM and the UXOSO will identify evacuation routes in the daily meeting held in an upwind location, based on the location of work. The UXOSO is also responsible for posting all emergency contact phone numbers and addresses. The UXOSO will be responsible for communicating the location of this information with all KEMRON employees, subcontractors, and site visitors and conducting a test of the emergency procedures to ensure effectiveness.
  - The PM will ensure that the COR approves the emergency response procedures and reviews the hazard evaluation program for each WP.
  - A CIH or other competent person will evaluate the operations, materials, and equipment that may involve potential exposure to site workers and develop appropriate hazard evaluation and emergency response plans. AHAs for operations, activities, and any other hazards are included in **Attachment 1**. AHAs are reviewed or approved by qualified personnel as indicated on the AHA forms.

Emergency fire response equipment will be inspected and maintained as necessary to replace any materials used in fire response activities. The following measures will be taken to isolate fires and protect personnel.

- The SUXOS will be notified immediately when a fire, or the threat of a fire, is observed.
- The SUXOS and UXOSO will assess the situation and determine the appropriate response. KEMRON will only attempt fire suppression or extinguishing activities in the event that the situation is manageable for on-site personnel and equipment. In the event of a large fire or uncontrollable situation, KEMRON will evacuate personnel and contact the Fire Department.

- The SUXOS and UXOSO will evaluate the situation to ensure it is safe for personnel to begin fire suppression or appropriate response operations, or notify the Fire Department.
- The SUXOS will assign the level of protection to be worn by the fire response personnel.
- All required supplies will be assembled and positioned such that they are readily available to the fire response personnel.
- Fire response personnel will take measures to isolate and suppress the fire.
- Restrict access of unauthorized personnel.
- Relocate personnel to the emergency meeting location and/or upwind of the fire.
- Prepare an Incident Report that contains the following information.
  - Identify the cause of the fire. (If possible, SDSs for material used during response will be included in any incident reports generated.)
  - Exact time and location of the fire and a description of the area involved
  - Isolation and suppression procedures used
  - A description of the corrective actions implemented
  - A summary of the communications between KEMRON and the COR.

In situations such as fires or other catastrophic incidents beyond their level of training and competency, employees will be trained to take the following actions.

- Notify emergency personnel
- Activate any alarm system(s)
- Follow evacuation procedures, use specified routes, proceed to the agreed-upon meeting places, and assure accountability for all personnel
- Use of—and when to use—a fire extinguisher
- Use of first aid/CPR
- Rescue operations as necessary.

Off-site medical and emergency response support will be coordinated with the El Paso Fire Department / 911 response system before beginning field work. All non-emergency correspondence to the fire department will be through the COR. In the event of an emergency, 911 will be notified.

The Fire Department and the COR will be notified of any fire or emergency and will be responsible for rescue, transportation, and treatment of severe medical conditions. On-site KEMRON employees trained to provide first aid may be responsible for initial medical responses. Off-site medical and emergency response support will also be coordinated with the El Paso Fire Department during pre-work meetings.

A list of emergency contacts and the hospital is provided in **Section 10**. In the case of a medical emergency the SUXOS will determine the nearest appropriate facility. The SSHP, included as **Attachment 1**, provides driving directions to the nearest hospital.

All emergency contact phone numbers and addresses will be posted onsite. The UXOSO will be responsible for communicating the location of this information with all KEMRON employees, subcontractors, and site visitors.

#### 11.2.4. Wild Land Fire Management Plan

In the event that a Wild Land Fire Management Plan is necessary, it will be prepared by a qualified person and submitted for review.

Site personnel should practice smart fire safety habits and watch out for hazardous conditions. If conditions are dry, wild fires can pose a threat, not only because there is plenty of fuel to burn, but also because rural areas and remote locations often do not have easy access for firefighters. There also is a chance that embers from a fire a mile or more away may fall onto nearby vegetation and cause them to catch fire. The following preventive measures will be observed.

- Smoke only in designated areas.
- Avoid driving through high grass or areas where vehicle exhaust or hot engine surfaces could cause fires.
- Keep a fire extinguisher handy.
- Be extra cautious during the dry season and observe warnings and prohibitions established by the Forestry Service or other agencies.
- Be aware of wild fires in neighboring areas.

#### **11.2.5. Posting of Emergency Contact Information**

KEMRON will post emergency contact information at each job site on a bulletin board at the location of the daily safety meeting, typically adjacent to a KEMRON truck or other designated area. KEMRON may also post this information on the visor(s) of each truck. In the event that an emergency situation arises at the job site, this posting will expedite the emergency medical treatment, reporting, and response.

This posted information will include the following.

- KEMRON Emergency Coordinator Contact Information
  - PM
  - SUXOS
  - UXOSO
- Emergency Contact Telephone Numbers and Reporting Instructions
  - Ambulance
  - Hospital
  - Doctor/Physician
  - Fire department
  - Police department
  - CHEMTREC
  - National Response Center
  - Poison Control Center
  - Other appropriate agencies.
- Location of Emergency Response Equipment
  - Fire extinguishers
  - Spill control equipment and materials
  - Special equipment.

#### **11.2.6. Emergency Response Plan (Marine Emergencies)**

Marine activities are not associated with the tasks to be performed under this contract.

### **11.3. Plan for Prevention of Alcohol and Drug Abuse**

This program establishes KEMRON's policy of maintaining a drug-free workplace, and provides procedures for substance abuse screening and detection in KEMRON employees. The substance free workplace program has been established out of a commitment to employee safety and health, productivity, and accident prevention. This program applies to all personnel and covers employees of contractors and subcontractors. All contractors and subcontractors will be informed of the drug-free workplace and substance detection program and are responsible for compliance with and administration of the program.

### **11.4. Site Sanitation Plan**

A portable toilet and washroom facilities will be available for the project. The placement of sanitary facilities will be approved by KEMRON representatives, prior to delivery onsite. Separate toilet rooms for each sex need not be provided if toilet rooms can only be occupied by one person at a time, they can be locked from the inside and contain at least one toilet seat.

#### **TOILET FACILITIES**

<b>Number of employees:</b>	<b>Minimum number of facilities:</b>
20 or fewer	One
More than 20 but fewer than 200 employees	One toilet seat and one urinal per 40
More than 200 employees	One toilet seat and one urinal per 50

For this construction project, one sanitary facility shall be provided for every 20 on-site employees. Adequate lavatory facilities with potable water will be provided for employees to wash their hands at each break, before eating, drinking or smoking, and at the end of the workday.

### **11.5. Medical Support Plan**

In the event of an incident or medical emergency, the following contact information is provided to initiate an emergency response:

Chemical Transportation Emergency Center (CHEMTREC)	800-424-9300
National Response Center	800-424-8802
West Texas Regional Poison Center	915-534-3802
Poison Control Center Emergencies	800-222-1222
Federal Emergency Management Agency	940-898-5399
Texas Division of Emergency Management	512-424-2208
Centers for Disease Control and Prevention	800-232-4636
KEMRON Environmental Services, Inc.	800-548-6938
404-636-0928	
Fort Bliss Fire Department	915-744-1283
Fort Bliss Military Police	915-568-2115
Fort Bliss EOD	915-568-8905
Emergency Fire	911
Emergency Police	911
Emergency Medical Services	911

## **Hospital**

University Medical Center of El Paso    **Emergency Services: 915-521-7700**  
4815 Alameda Ave.  
El Paso, TX 79905

The route from the AOI North of Castner Range project site to the University Medical Center of El Paso is shown on **Figure 11-1**.

### **On-Site Medical Support**

The following will be provided at each job site.

- Health and Safety Plan including:
  - directions and maps to hospital; and
  - emergency contact information.
- First-aid kit
- Emergency eyewash
- Emergency communication devices (cell phones, two-way radios, or equivalent)
- ABC dry chemical fire extinguishers for each truck or piece of equipment.

At a minimum, at least two on-site KEMRON employees will be first aid and CPR certified by the American Red Cross, American Heart Association, or National Safety Council. KEMRON employees currently first aid and CPR certified include:

- TBD
- TBD

Documentation of first aid and CPR training records will be maintained in the on-site office and under control of the UXOSO. A first-aid kit complying with the criteria contained in American National Standards Institute (ANSI) Z 308.1 Type III will be provided. These employees are also enrolled in KEMRON's bloodborne pathogen program that establishes procedures and responsibilities during an incident involving blood or bodily fluids.

### **Off-Site Medical Support**

A list of emergency contacts and the hospital information is provided above. In the case of a medical emergency the SUXOS will determine the nearest appropriate facility. The SSHP, included as **Attachment 1**, also provides driving directions to the nearest hospital.

Off-site medical and emergency response support will be coordinated with the El Paso Fire Department / 911 response system before beginning field work. All non-emergency correspondence to the fire department will be through the COR. In the event of an emergency, 911 will be notified.

Off-site medical support will be provided by the University Medical Center of El Paso. The University Medical Center of El Paso has an emergency services department that performs all services necessary. In the case of a medical emergency, KEMRON and subcontractors will be transported to University Medical Center of El Paso. A high resolution map and driving directions, 11 inches by 17 inches, will be provided for employees.

## **11.6. Respiratory Protection Plan**

For the AOI North of Castner Range project site, it is anticipated that all of the work will occur in Level D without the need for respiratory protection. In the case that site conditions change, and the potential to upgrade PPE is identified, KEMRON will work with the COR to determine the path forward. KEMRON

is prepared to conduct air monitoring to determine if respiratory protection may need be upgraded to the secondary respiratory protection level that includes the use of air purifying respirators. The UXOSO and SUXOS will review the site conditions before beginning each task and determine the proper level of PPE.

### **11.7. Blood-Borne Pathogen Program**

For those projects or contracts in which a KEMRON employee is required to act as the first responder for first aid, CPR or other medical assistance (in the event of workplace injury or illness) those employees are required to be trained in all applicable requirements of the OSHA blood borne pathogens standard (29 CFR 1910.1030). The KEMRON employees subject to this standard also will be offered the hepatitis A and/or hepatitis B vaccination series pre-exposure, in accordance with the OSHA standard. KEMRON will make the vaccination available at no cost to the employee.

All first aid providers who render assistance in any situation involving the presence of blood or other potentially infectious materials, regardless of whether or not a specific exposure incident occurs, will have the hepatitis B vaccine made available to them as soon as possible (within 24 hours after the exposure incident).

Any employee who refuses the vaccine must sign the HBV Declination form, or equivalent, which will be kept in the employee's file. However, after refusing the vaccine, an employee may later decide to receive the vaccine, at no cost. The vaccine is not mandatory for employees who have already received it or those with antibodies which protect them. Routine titers (antibody tests) are not required. If boosters are necessary, either because post-exposure titers show insufficient antibodies, or because the US Public Health Service recommends routine boosters, the boosters will be provided at no cost to the employee.

### **11.8. Exposure Control Plan**

In the event of an exposure, KEMRON's Exposure Control Plan (ECP) will be implemented to eliminate or minimize occupational exposure to blood borne pathogens in accordance with OSHA standard 29 CFR 1910.1030, "Occupational Exposure to Blood borne Pathogens.

### **11.9. Automatic External Defibrillator (AED) Program**

KEMRON employees trained in first aid and CPR are also trained in the use of owned AEDs by American Red Cross, American Heart Association, or National Safety Council trainer. KEMRON owned AEDs are checked weekly for battery life and functionality. All KEMRON owned AEDs are equipped with replacement pads and an extra battery. The KEMRON AED SOP protocol is included as within the Site Safety Forms within the attached SSHP (Attachment 1), and shall be referenced prior to the start of work. KEMRON employees performing work on KEMRON job sites will adhere to the work practices outlined in the KEMRON AED SOP regarding the use of AEDs.

### **11.10. Site Layout Plans**

There are currently no plans for temporary facilities at the AOI North of Castner Range project site. In the event that temporary facilities will be used, an updated Site Layout Plan will be submitted to the Fort Bliss POC. Before work begins, all site layout plans will be approved by the Fort Bliss POC representatives or other GDA. The Site Layout Plans for the project will include the following.

- Location of temporary construction buildings
- Location of facilities
- Location of fencing
- Location of access routes

- Design of anchoring systems for temporary structures
- Requirements of temporary facilities spacing according to International Building Code
- Requirements for temporary power distribution in accordance with all applicable regulations
- Requirements for temporary ramps, trestles, scaffolds, and platforms

### **11.11. Access and Haul Road Plan**

Access and Haul Road activities are not associated with the tasks to be performed under the scope of this contract.

### **11.12. Hearing Conservation Program**

Although not anticipated, KEMRON and subcontractors will implement use of hearing protection during high noise activities to reduce noise exposure below 85 dBA.

### **11.13. Hazard Communication Program**

The intent of the HAZCOM program is to inform KEMRON personnel of any hazards related to hazardous chemicals or compounds to which they may be exposed during site work. The Hazard Communication Program will provide education to all KEMRON employees, office workers, and field personnel on how to interpret and use information provided on SDSs, and how to protect themselves from chemical hazards in the workplace. The program is intended to comply with OSHA's Hazard Communication Program requirement, 29 CFR 1910.1200, the Resource Conservation and Recovery Act, and 40 CFR 260 et seq. including the Globally Harmonized System of Classification and Labeling of Chemicals.

Information on the hazards of chemical agents present on project sites and in the work place will be communicated to employees, and employees will be trained in the recognition, location, and protective measures appropriate for those chemical hazards.

#### **Hazardous Materials Inventory**

The UXOSO will be responsible for preparing the hazardous chemical (physical or health hazard) inventory for each project site. The inventory will be reviewed by the UXOSO or designated representative. The hazardous materials list inventory will be conducted using the following process.

- Each work area will be surveyed for all hazardous or potentially hazardous materials.
- Purchasing records may be reviewed for additional hazardous materials information.
- A list of the hazardous materials will be compiled by recording the vendor, chemical name, common name, work area and/or process, and the primary hazards.
- Products found during the inventory that cannot be identified, through labeling or other means, will be evaluated as to their usefulness. These products, along with hazardous materials that are not in current use, will be disposed of properly and not included in the initial inventory.
- An SDS for each product listed on the hazardous materials inventory must be obtained. All hazardous materials removed from the work area that will not be used in the future, will have the corresponding SDS removed from the file. These SDSs will be placed in an inactive file and will be retained until the completion of the field work from the last date of known use.

Once the inventory is completed, it must be maintained in a central location, accessible to employees. The inventory must contain the following information.

- Location of the hazardous material

- Chemical name referenced on the SDS
- Product name (name used in process or application)
- Manufacturer's name
- Date of the most current SDS.

A copy of the Hazardous Chemical Inventory Form is included in **Attachment 4**.

For the AOI North of Castner Range project site, a potential hazardous materials inventory will be established before work begins on any WP.

The following is a generalized list of materials or substances that are anticipated to be used on site during the upcoming site work.

- Detergents for decontamination efforts
- Diesel fuel, hydraulic oil, and other vehicle/equipment maintenance substances
- Small quantities of lubricants, cleaners, marking paints, and/or landscaping materials (fertilizer, peat, lime, etc.).

**Table 11-1**  
**HAZCOM Materials**

Material	Use	Estimated Quantity
Detergents (Alconox or equivalent)	Decontamination	1 gallon or less
Marking Paints	Site Identification	2 to 3 spray paint-type cans
Landscaping materials (fertilizer, peat, lime, etc.)	Restoration	TBD based on grass/plant type to be installed

This APP provides an estimated list of each hazardous material and the estimated maximum quantity to be on site at any given time. This list will be updated as new hazardous materials are brought on site or removed from the site. A potential hazardous material list and copies of SDSs for all potential hazardous materials is included in **Attachment 4**.

The storage location for all hazardous materials will be determined by the KEMRON SUXOS representative before mobilization. At this time, the current location of any site storage area has not been established. The locations of chemical storage will be identified on the site map once fieldwork begins.

### **Labeling**

Manufacturers are required to label their containers of hazardous materials. Therefore, KEMRON will use the product label as the primary means of warning employees about the hazards of the products. The SUXOS, working with the PM, will be responsible for reviewing materials used that may be hazardous. The UXOSO will ensure that labels and warnings that are present on products received by KEMRON are left on the product. Employees are prohibited from removing or defacing labels on incoming products. Labels may include words, pictures, symbols, or combinations thereof to specify methods to address hazard warnings.

If hazardous chemicals are placed into other containers for use, the UXOSO will assure that appropriate labeling is applied to the new container. All containers of hazardous chemicals in the workplace will be labeled or tagged. Labels must include the following.

- The product name or identity of the hazardous chemical contained therein
- Physical and health hazard warnings, including target organs
- Name and address of the chemical/material manufacturer, importer, or other responsible party.

Labels will be legible and in English. Should non-English speaking employees be employed by KEMRON in a position that is subject to the Hazard Communication Program, the UXOSO will ensure that information is also provided in the employee's native language(s).

### **Safety Data Sheets**

The UXOSO will obtain SDSs for all commercially acquired substances from manufacturers and/or vendors of all hazardous chemicals used in the workplace or at the job sites, and maintain the SDS file. The UXOSO is responsible for communicating KEMRON's Hazard Communication Standard Program, including new and updated SDSs, to employees at his/her location on a continuing basis. Employees will be instructed on where to locate the hazardous chemical inventory and corresponding SDSs, and methods/observations that may be used to detect the presence or release of any hazardous chemicals that may be encountered, including monitoring devices, visual appearance or odor. The UXOSO will use SDSs to determine chemical names and hazardous chemicals identified in each product. The UXOSO will complete the Hazardous Chemical Inventory Form and update new materials as they are received or removed and as operational changes are made. The inventory must contain all information listed in numerical order with the SDS numbered to correspond to the inventory.

Where required by state or local regulation, copies of SDSs will be submitted to regulatory agencies. The PM will determine the local requirements and complete any required submittal(s).

If a product is received for which KEMRON does not have an SDS, one must be requested from the manufacturer/vendor. Employees will not be permitted to use any hazardous chemical for which a sheet has not been received.

Any new or updated SDS received by any KEMRON employee must be immediately transmitted to the UXOSO. Upon receipt of a new or updated SDS the following steps will be taken.

1. The UXOSO will review the SDS and, if complete, add it to both the project and office SDS file.
2. Employees will be notified of any additions to the SDS file concerning their projects, and associated hazards, applicable protection measures, PPE, emergency measures, and other applicable health and safety factors related to materials identified on the SDS.

### **Non-Routine Tasks and Unlabeled Containers**

When conducting non-routine tasks, the PM and UXOSO will ensure that all hazards have been properly identified and communicated to employees through the project-specific health and safety plan and associated AHA.

Additionally, should unlabeled materials be encountered during a project, such as unlabeled drums, containers, or pipes potentially containing chemicals, employees will notify the SUXOS, who will confer with the PM, UXOSO and/or other KEMRON experts to determine the appropriate course of action. No unlabeled containers will be handled or managed by KEMRON personnel without first conferring with appropriate health and safety personnel, knowledgeable client personnel, and other appropriate subject-matter experts to determine appropriate safe means of completing the work tasks.

### **Employee Information Requests**

Employees have the right to request a copy of any SDS for the hazardous chemicals that are present in their work area (in accordance with 29 CFR 1910.1200[e]). KEMRON will not deny, or require any employee to waive, this right. Employees who wish to obtain copies of SDSs should submit a written request to the SUXOS. It is the responsibility of the SUXOS to ensure that employees receive information pertaining to the chemical(s) requested.

### **Employee Training**

Hazard Communication Program training will be completed by KEMRON for all employees who work in areas where hazardous chemicals are used, handled, or stored. Employees are to be trained in accordance with applicable federal and state requirements. The training program will inform employees of the requirement of the law, the employee's responsibilities, and the employee's rights. Employees must be trained to know the chemicals they work with, the associated physical and health hazards, the appropriate protective measures to be taken, and the steps to be taken in a medical emergency. Training sessions will be completed before any work begins on any of the HTRW sites. Each person, at each session, will sign an attendance sheet distributed by the instructor. Records of attendance will be maintained in employee files. At a minimum, training must include the following.

- Methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area.
- The physical and health hazards of the chemicals in the work area.
- Measures employees can take to protect themselves from the physical and health hazards in the work area, including company or project-specific procedures and work practices such as PPE, emergency procedures, etc.
- Explanation of the labeling system and SDS.
- How the employee can obtain and use the hazard information.

The following levels of hazard communication training will be performed.

- New Employees - Within three (3) months after hire, new employees at KEMRON will receive instructions on the overall requirements of the current hazard communication standard, and the hazardous chemicals that they may use or may be exposed to in the course of their work activities.
- Employee Transfers - Whenever an employee is transferred to a job that exposes the employee to hazardous materials previously not used, the employee will receive instructions on the new material and safe handling procedures, within 30 days of transfer.
- Introduction of New Materials - Whenever a new hazardous material is introduced into the workplace, employees will be notified and will receive instruction on the associated hazard(s) and precautions via a memo issued by the PM.
- Annual Update Training - A general overview of the hazard communication standard, SDSs, and labels will be provided annually for all affected employees.

Training records will be kept on all initial and hazard communication standard training update sessions. A copy of the log will be placed in each employee's personnel file.

### **Contractors/Subcontractors**

KEMRON personnel working on a site where there are other contractors must provide a copy of the SDS for chemicals that they bring to the site. Every firm working in close proximity to a KEMRON operation must be asked if they want a copy of the SDS. This must be documented in the daily observation sheets.

Site contractors, subcontractors, and/or non-employees will be advised of the hazards associated with materials being used in KEMRON work areas. No assumptions will be made about contractors' and/or non-employees' knowledge of the potential hazards associated with working in KEMRON work areas. The contractor, subcontractor, and/or non-employee will be notified about the location of the SDS for hazardous materials that may be used by KEMRON in their assigned work area. Non-essential personnel will not be permitted in areas where hazardous chemicals are in use.

## **11.14. Process Safety Management Program**

Activities involving the use, handling, or storage of highly hazardous chemicals above threshold quantities or the storage of flammable liquids or gases in one location greater than 10,000 lbs. are not anticipated with the tasks to be performed under the scope of this contract.

## **11.15. Lead Compliance Plan**

Lead-based paint abatement activities are not associated with the tasks to be performed under the scope of this contract.

## **11.16. Asbestos Abatement Plan**

Asbestos abatement activities are not associated with the tasks to be performed under the scope of this contract.

## **11.17. Radiation Safety Program**

The use of radiation devices is not associated with the tasks to be performed under the scope of this contract.

## **11.18. Abrasive Blasting Procedures**

Abrasive blasting activities are not associated with the tasks to be performed under the scope of this contract.

## **11.19. Heat Stress Monitoring Plan**

KEMRON will implement the following combination of procedures and practices to control heat stress.

- Implement medical evaluations for field employees to identify risk factors that could make the individual more susceptible to heat illness, and to evaluate medical fitness for duty in hot environments or while wearing protective clothing or respirators.
- Train site workers to recognize high-hazard conditions, heat stress symptoms, contributing factors to heat related injuries (e.g., alcohol intake) and prevention techniques.
- Utilize the buddy system by site workers, including individuals monitoring themselves and their buddies for symptoms of heat stress, and encouraging fluid intake.
- Encourage workers to drink water before they are thirsty, and providing ready access to potable water at all times. At least one quart of potable water per worker per hour must be provided during work situations where the potential for heat illness exists.
- Provide electrolyte fluids as needed for extreme heat or work situations.
- Adjust the time of operations to cooler periods whenever possible.

## **11.20. Cold Stress Monitoring Plan**

Workers will be protected during exposure to extreme cold temperatures so that the body temperature does not fall below 36° Celsius (98.6° Fahrenheit). Lower body temperature may result in reduced mental acuity, irrational decision making or loss of consciousness.

## **11.21. Indoor Air Quality Management**

Indoor activities in normally populated areas are not associated with the tasks to be performed under the scope of this contract.

## **11.22. Mold Remediation Plan**

Mold Remediation activities are not associated with the tasks to be performed under the scope of this contract.

## **11.23. Chromium (VI) Exposure Plan**

Exposure to Hexavalent Chromium (Chrome VI) is not associated with the tasks to be performed under the scope of this contract.

## **11.24. Crystalline Silica Evaluation**

Activities that may produce Crystalline Silica are not associated with the tasks to be performed under the scope of this contract.

## **11.25. Lighting Plan for Night Operations**

Night operation activities are not associated with the tasks to be performed under this contract.

## **11.26. Traffic Control Plan**

Traffic Control activities are not associated with the tasks to be performed under this contract.

## **11.27. Fire Prevention and Protection Plan**

KEMRON maintains superior standards of fire protection to safeguard against damage to property and to prevent interruption of operations that may result from fires.

### **SSHO Responsibilities**

The SSHO responsibilities with regard to fire prevention and control are summarized in these three points:

- Maintain an awareness of site fire hazards and assure the implementation of positive safeguards
- Conduct regular, periodic inspections of work areas to assure that they remain in a fire-safe condition
- Indoctrinate each employee to develop a fire-conscious attitude for elimination of hazards and observance of safe practices, and check their subsequent performance

### **Fire Prevention Plan**

Good housekeeping is a primary factor in preventing fires. The supervisor can exercise direct control by:

- Eliminating accumulations of rubbish and unnecessary combustible materials
- Keeping doors, exits and aisles clear
- Storing flammable liquids in safety cans
- Preventing leaks and spills of flammables
- Neatly piling stock and other materials

### **Flammable and Combustible Materials**

KEMRON employees will be provided with a list which identifies any combustible materials on site. The list will also include the quantities, locations and storage methods, for the listed material.

### **Electrical Equipment**

Approved electrical equipment will be utilized in all areas of the facility. Electrical circuits will utilize circuit breakers as a means of preventing overload. All electrical circuit breaker boxes will be Underwriters Laboratories listed and the wiring will meet the requirements of the National Electric Code.

### **Smoking Regulations**

Supervisors are responsible for rigidly enforcing NO SMOKING regulations among their own employees and others who enter their area of responsibility. Signs must be posted and smoking prohibited near flammable liquids and gases, and in areas where combustibles are stored or used. Appropriate cigarette butt receptacles must be provided and used where smoking is permitted.

### **Fire Protection Equipment**

The use of fire protection equipment for other than fire emergencies is prohibited.

### **Fire Hose and Fixed Fire Equipment**

Fire hose and fixed firefighting equipment used on KEMRON sites must meet applicable governmental and NFPA standards and be approved by location management. No part of a fire protection system will be closed nor operated without prior notice and approval of the SSHO. This includes fire sprinkler control valves, sectional control valves, hydrants, hose standpipes, fixed extinguisher systems or any other type fire protection system. Special tags will be issued by the SSHO for fire protection equipment when it must be closed, tested, or temporarily altered in any way.

### **Fire Extinguishers**

Site fire extinguisher protection shall be provided as follows:

- A fire extinguisher rated not less than 2A is provided for every 3000 square ft. of building area. Travel distance to the nearest extinguisher must be 75 ft. or less.
- Fire extinguishers are located on each floor and adjacent to stairwells on multistory buildings.
- Fire extinguisher users are identified and trained in accordance with applicable governmental requirements.
- A fire extinguisher rated not less than 10B shall be provided within 50 ft. of flammable or combustible liquids or flammable gases in quantities of more than 5 gallons or 5 pounds.
- Fire extinguishers are listed by a nationally recognized testing laboratory.
- Fire extinguishers are inspected monthly in accordance with NFPA No. 10, "Portable Fire Extinguishers".
- Fire extinguishers receive an annual maintenance check in accordance with 29 CFR 1910.157(e)(3).
- Fire extinguishers receive a hydrostatic test in accordance with 29 CFR 1910.157(f), "Hydrostatic Testing".
- Fire extinguishers are selected in accordance with 29 CFR 1926.150, Table F-1, "Fire Extinguisher Data".

Four classes of fires:

- Class A - involving paper, wood, cloth and similar combustibles. Extinguishment is usually by cooling; generally with water
- Class B - involving flammable liquids and similar materials where exclusion of air is most effective for extinguishment
- Class C - electrical fire where cooling and/or exclusion of air is effective. However, non-conductive extinguishing agents must be used to avoid electric shock

- Class D - metal fires

#### Types of Extinguishers

- Pressurized Water - This type of extinguisher is for use only on Class A fires.
- Dry Chemical - This type of extinguisher is the most effective on Class B and Class C fires.
- CO<sub>2</sub> - This type of extinguisher will handle Class B and Class C fires but is less effective than the dry chemical. However, it leaves no residue to clean up or contaminated equipment and is therefore desirable for use on small electrical fires.
- Special extinguishing agents - In certain cases, an unusual fire hazard will be present, e.g., magnesium machining. When such situations arise, special fire extinguishing agents will be provided.

#### **Flammable Liquids and Gases**

Requirements for indoor storage of flammable and combustible liquids:

- Not more than 25 gallons stored outside approved cabinets.
- Quantities of 25 gallons or more are stored in approved cabinet.
- Cabinets are labeled "Flammables - Keep Fire Away".
- Not more than 60 gallons of flammable or 120 gallons of combustible liquids are stored in any one cabinet and not more than 3 cabinets in a single storage area.

Outside storage areas must meet the requirements of 29 CFR 1926.152 (c), "Storage Outside Buildings".

- Flammable and combustible liquids are dispensed in accordance with 29 CFR 1926.152 (e), "Dispensing Liquids".
- Areas in which flammable or combustible liquids are transferred in quantities greater than 5 gallons from one tank or container to another tank or container, shall be separated from other operations by 25 ft. distance of by construction having a fire resistance of at least 1 hour. Drainage, ventilation or other means shall be provided to maintain the concentration of flammable vapor at or below 10 percent of the lower flammable limit.
- Transfer of flammable liquids from one container to another shall be done only when the containers are electrically interconnected (bonded).
- Flammable or combustible liquids shall be drawn from or transferred into vessels, containers, or tanks within a building or outside only through a closed piping system or from safety cans. Flammable liquids shall be transferred by means of an approved device drawing through the top of a container, or from portable tanks, by gravity or pump, through an approved self-closing valve. Transferring by means of air pressure on the container or portable tanks is prohibited.
- The dispensing units shall be protected against collision damage.
- Dispensing devices and nozzles for flammable liquids shall be of an approved type.
- There shall be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, receiving or dispensing of flammable or combustible liquids.
- Flammable liquids must be kept in closed containers when not in use and are not allowed, under any circumstances, within 50 ft. of an open flame or ignition source.
- Tank trucks for refueling meet the requirements of the standard for tank vehicles for flammable and combustible liquids, NFPA No. 385, "Flammable and Combustible Liquid Tank Vehicles".
- Service and refueling areas must meet the requirements of 29 CFR 1926.152 (g), "Service and Refueling Areas".
- Temporary heating devices must be used in accordance with 29 CFR 1926.154, "Temporary Heating Devices".

## **Hot Work Procedures**

Hot work is any operation that involves flame or spark-producing operations. A hot work permit is defined as the employer's written authorization to perform operations which could create a source of ignition, including:

- Riveting
- Welding
- Torch Cutting
- Grinding
- Brazing
- Burning
- Heating
- Use of any open flame
- Use of spark producing tools

Where possible, hot work should not be conducted in the presence of flammable gases, vapors, liquids, or dusts (where an ignitable or explosive concentration can develop). Atmospheric testing prior to work commencement, and periodically thereafter, will be conducted if the atmosphere in the work area has the potential to become hazardous.

Atmospheric testing will include percent by volume of the lower explosive limit (%LEL) and percent by volume of oxygen (%O<sub>2</sub>) using an LEL-O<sub>2</sub> meter, and toxicity (organic vapors) using a Photoionization Detector. Any employee responsible for conducting atmospheric testing will be appropriately trained in the use of the equipment prior to initiation of Hot Work. All equipment used for atmospheric testing will be calibrated following manufacturer's instructions prior to use and the results of such calibration noted in the instrument(s) logbook, and appropriately noted on the Hot Work Permit.

Fire hazards must be removed from the area of the hot work whenever feasible. If the object requiring the hot work cannot be moved and all fire hazards cannot be removed, guards will be used to confine the heat, sparks and slag, and to protect the immovable fire hazards.

If Hot Work must be performed, the following permit procedures must be observed. Hot Work performed in a confined space is subject to the additional requirements of KEMRON's Permit Required Confined Space program.

The permit writer is responsible for:

- Inspecting the work area for a distance of at least 35' around the hot work area site, specifically locating and addressing flammables/combustibles in the work area
- Documenting survey results and fire prevention/site preparation activities on the permit form
- Ensuring equipment and area are properly prepared and are safe for the performance of the work
- Ensuring that air monitoring has been completed
- Checking for proper placement and availability of fire extinguishers and other safety equipment
- Reviewing emergency procedures with persons conducting the hot work
- Informing fire watch of fire hazards
- Signing the hot work permit after permit conditions are met
- Monitoring work progress
- Stopping work if an unsafe condition occurs
- Immediately upon completion of work, inspecting work area(s) to determine they are safe for use by others.

The fire watch responsibilities are:

- Observing an area of at least 35' around and above the hot work area and maintaining the area free of combustibles and tripping hazards
- Performing no other duties while assigned on watch
- Understanding and following the conditions listed on the Hot Work Permit
- Must be trained in the use of fire extinguishing equipment provided
- Understanding the alarms and where/how to activate them
- Notifying the person doing the work if any sparks are not contained in the work area
- Sounding the alarm for assistance and extinguish any small fires started by sparks
- Remaining on the scene from the start of work until 60 minutes after completion of all hot work

In addition to the above requirements, a fire watch shall be present when any hot work is performed, as required.

- Fire watchers shall be required whenever hot work is performed in locations where other than a minor fire might develop.
- Fire watchers shall be required when appreciable flammable or combustible material is closer than 35 ft. (10.7 m) to the point of operation.
- Fire watchers shall be required when appreciable combustibles are more than 35 ft. (10.7 m) away but are easily ignited by sparks.
- Fire watchers shall be required when wall or floor openings within a 35 ft. (10.7 m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
- Fire watchers shall be required when combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
- Fire watchers shall have fire extinguishing equipment readily available and be trained in its use. They shall be familiar with facilities for sounding an alarm in the event of a fire. They shall watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. A fire watch shall be maintained for at least one hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.

Persons Doing the Work Must:

- Read, understand and follow all conditions listed on the Hot Work Permit
- Advise other workers of any special conditions or precautions
- Survey the work area to confirm safe working conditions. Know the location of the nearest telephone, fire alarm, emergency communication device, fire extinguisher, safety shower, first aid kit, etc., before starting work, and know how to use all such safety devices
- Confine all sparks as close to the work area as possible
- Be aware of conditions in the work area and stop work if conditions change. Work will not resume until approved by the Permit Writer
- Clean up and secure work area upon completion of job.

Procedure

- The Permit Writer will obtain a hot work permit by advising the SSHO in advance of expected hot work operations. Hot Work Permits are valid only for one work shift and for only those persons who are assigned and listed on the permit to perform the work.
- The Permit Writer will complete the information on the Hot Work Permit as accurately as possible. Include the date work is to be performed, a description of the work to be performed,

name of persons performing the work, location where the work will be performed and the time work will be performed. Complete the checklist on the Hot Work Permit (Appendix A – Safety Forms).

- Complete and record results of initial air monitoring per the permit form. Initial monitoring will include %LEL, Toxicity and %O<sub>2</sub>.
- If %LEL readings exceed 10%, or other unsafe atmospheric conditions are identified, hot work may not be performed until explosive/dangerous conditions are mitigated.
- The completed Hot Work Permit will be returned to the SSHO for review prior to commencement of the hot work.
- Post the permit in a conspicuous place while the work is in progress.
- Periodic air monitoring must be performed and results recorded on the permit form.
- Return the permit to the SSHO when work is completed. Permits will be valid for one shift only.
- When any alarm sounds, stop all work, disconnect all electrical equipment, and secure all gas cylinders. Work will not resume until notification from the Permit Writer.

#### **Training and Record Keeping**

Affected personnel will be trained in fire-suppression techniques upon initial assignment and at least annually thereafter. They shall be instructed in:

- Locations and proper use of the fire extinguishers supplied on site.
- Emergency notifications procedures.
- Respiratory protective equipment that is required in the near vicinity of a fire.
- Techniques for smothering fires using available noncombustible materials.
- Emergency evacuation procedures in the event fires reach an out-of-control condition.
- All personnel will be instructed in the Site Safety and Health Plan emergency notification procedures.
- Any employee responsible for conducting atmospheric testing will be appropriately trained in the use and proper calibration of the equipment prior to initiation of work conducted under the Hot Work Permit.
- Records will be maintained by the company whose employees have been trained for at least three years or until facility closure for current employees. Records for former employees will be retained for at least three years in appropriate personnel files at KEMRON offices.

Records of annual fire extinguisher maintenance will be retained for one year after the last entry or life of the shell.

#### **11.28. Wild Land Fire Management Plan**

In the event that a wild land fire management plan is necessary, it shall be prepared by a qualified person and submitted for review.

#### **11.29. Arc Flash Hazard Analysis**

Work involving energized parts greater than 50 volts AC or 100 volts DC is not anticipated under the scope of this contract.

#### **11.30. Assured Equipment Grounding Control Program (AEGCP)**

All temporary electrical power sources used for this project will utilize Ground-Fault Circuit-Interrupter (GFCI) protection. Existing receptacle outlets may protect by installing a receptacle outlet with integral

GFCI protection or by using temporary receptacles protected by a GFCI circuit breaker plugged into the existing receptacle before any temporary wiring. GFCIs are required to be tested prior to use.

### **11.31. Hazardous Energy Control Plan (Lockout/Tagout)**

Control of hazardous energy to prevent injury and property damage from the accidental energizing of equipment and electrical circuits while such equipment or circuits are being serviced by employees or contractors is the purpose of the LOTO Program. This program establishes the requirements for isolation of kinetic, potential, electrical, chemical, thermal, hydraulic, pneumatic, and gravitational energy before equipment repair, adjustment, or removal. Reference: OSHA Standard 29 CFR 1910.147, the control of hazardous energy.

The SUXOS will be responsible for communicating the LOTO Program to all KEMRON employees, subcontractors, and site visitors. The SUXOS will coordinate with the PM to ensure that all affected individuals have the proper training and safety equipment in place before beginning any project task.

This procedure will be followed by any employee when that employee's duties include performing servicing or maintenance. This procedure will be followed during the servicing and maintenance of machines and equipment in which the unexpected energizing or starting of the machines or equipment, or release of stored energy could cause injury to employees. This includes but is not limited to: electrically powered, steam powered, pneumatic, and hydraulic equipment. Contractors will also follow this procedure when duties include servicing or maintenance of machines or equipment.

#### **Hazards**

Improper or failure to use LOTO procedures may result in the following.

- Electrical shock
- Chemical exposure
- Skin burns
- Lacerations, crush injuries and amputations
- Fires and explosions
- Chemical releases
- Eye injury
- Death.

#### **Hazard Controls**

- Only authorized and trained employees may engage in tasks that require use of LOTO procedures.
- Verify all equipment sources of hazardous energy have been identified and can be isolated.
- Lockout procedures have been developed for all equipment and processes.
- Restoration from LOTO is a controlled operation.

29 CFR 1910.147 - "The Control of Hazardous Energy (lockout / tagout)" covers the servicing and/or maintenance of machines and equipment. Situations that would require lockout / tagout to prevent injury to employees include:

- a. Potential for the unexpected energizing or starting of the machinery or equipment or
- b. When there may be a release of stored energy in machinery or equipment.

#### **Types of Hazardous Energy Sources**

1. Mechanical energy can be in the form of potential or kinetic energy.

2. Potential energy is associated with the mass of a body and its height.
  - (a) When a body mass is taken out of its "resting" position and held in a "tensioned" position.
  - (b) Potential exists that this body mass can be released and the energy that will be released is the potential energy.
3. Examples of hazardous potential energy sources are:
  - (a) A press not lowered to its "at rest" position
  - (b) A compressed gas line which has not been bled
  - (c) A car on a jack stand
  - (d) A valve held open by a mechanical trip latch.
4. Kinetic energy is associated with the mass of a body and its speed. Kinetic energy is often referred to as the "energy of motion."
5. Examples of hazardous kinetic energy sources are:
  - (a) A rotating saw blade and
  - (b) A spinning motor, pump, turbine, or fan.

### **Electrical Energy**

Electricity is present in virtually every industrial, manufacturing, office and home environment. Electrical energy is the energy source that powers the presses, bottling machines, computers, and lights to which we are all accustomed. It is invisible, odorless, and colorless. Electrical energy cannot be detected by normal body senses unless we come in close contact with, or touch it. Electrical current coming in contact with the body can cause failure of the respiratory system, vital organs (heart), or severe burns. Some electrical components, such as capacitors, store energy. They must be discharged before beginning work. Many electrical devices have more than one source of power. Some examples of electrical energy sources follow.

- Motors
- Fans
- Controllers
- Heaters
- Compressors
- Generators.

### **Hydraulic Energy**

Hydraulic energy is energy associated with a fluid (water, oil) under pressure. Hydraulic energy is used to operate heavy machinery or remote components. Some examples of hydraulic energy sources follow.

- Fork lifts
- Automotive power steering
- Valve operators
- Front-end loaders
- Car lifts
- Airplane flaps.

### **Pneumatic Energy**

Pneumatic energy is the energy associated with the use of pressurized (compressed) air or gas to affect mechanical motion. Some examples of pneumatic energy sources follow.

- Air bottles
- Air in tires
- Air-operated valves

- Air tools
- Compressors.

### **Chemical Energy**

Corrosive and/or irritant chemicals may destroy body tissues. Toxic materials may cause acute or chronic physiologic effects. Flammable and/or combustible materials are potential fire hazards.

### **Thermal Energy**

Thermal energy pertains to the presence, or absence, of heat and the hazards associated with either condition. Some examples of thermal energy sources follow

- Steam lines
- Fire
- Heating devices
- Liquid nitrogen
- Cryogenic materials.

### **Protective Materials and Hardware**

The following protective materials and hardware might be required to perform Lockout/Tagout procedures.

1. Some examples of protective materials and hardware authorized to isolate energy sources follow.
  - (a) Locks
  - (b) Tags
  - (c) Chains
  - (d) Wedges
  - (e) Key blocks
  - (f) Adapter pins
  - (g) Self-locking fasteners
  - (h) Flange blanks.
2. The following are examples of lockout and tagout devices.
  - (i) Durable - environmentally sound
  - (j) Standardized - color, shape, size
  - (k) Substantial - prevent removal
  - (l) Identifiable - identify employee applying the device, warning statement, legend (DO NOT REMOVE, DO NOT OPEN, DO NOT START, etc.).

### **Lockout/Tagout Procedure for an Authorized Employee**

The following steps and actions will be done in sequence. The following information must be recorded.

1. Preparation for Shutdown
  - (a) Identify type and magnitude of energy.
  - (b) Identify hazards of energy to be controlled.
  - (c) Identify energy control methods.
2. Shutdown
  - (a) Affect an orderly shutdown using standard operating procedures.
  - (b) An improper shutdown may introduce additional hazards.
  - (c) Verify that affected employees are notified in advance of the shutdown.
3. Isolation
  - (a) All energy isolation devices are physically located and operated to isolate energy sources.
4. Lockout or Tagout Devices Applied

- (a) The authorized employee will affix lockout and/or tagout devices to all energy-isolating devices. If a lockout system can be used, this method will be selected. If the energy system cannot be locked out, a tagout device will be employed.
- (b) A lockout device will be attached to hold the energy isolating device in the "safe" or "off" position.
- (c) Tagout devices will be placed in such a manner as to clearly indicate that operation, or movement, of the energy isolating device is PROHIBITED.
  - Place tagout device in lockout device location, if so equipped.
  - If tag cannot be affixed directly to the energy isolating device, locate the tag as close as safely possible to be immediately obvious.

5. Stored Energy

- (a) All potentially hazardous stored (or residual energy) is relieved, disconnected, restrained, or otherwise rendered harmless.
- (b) Verification of isolation will continue if the possibility of energy accumulation is present.

6. Verification of Isolation

- (a) Before starting work, verify that the isolation is effective. This may be performed by operating the equipment's "start" switch or other normal operating controls to ensure the equipment will not operate.
- (b) Check electrical circuits with voltage measuring devices. Observe indications of other parameters.
- (c) Always return operating controls to the "neutral" or "off" position after this test.

#### **Extended Lockout/Tagout**

Should the shift change before the machinery or equipment can be restored to service, the lock and tagout must remain. If the task is reassigned to the next shift, those employees must lockout and tagout before the previous shift may remove their lock and tag.

#### **Sequence of Events**

<b>Authorized Employee</b>	<ul style="list-style-type: none"><li>• Obtain LOTO permit</li><li>• Observe equipment looking for specific hazards</li><li>• Completes Sections 1, 2, and 3 of LOTO permit</li><li>• Signs Section 4 of LOTO permit</li><li>• Takes completed LOTO permit to SUXOS / PM</li></ul>
<b>SUXOS or Supervisor</b>	<ul style="list-style-type: none"><li>• Reviews LOTO form</li><li>• If complete, SUXOS / PM signs LOTO form</li><li>• If incomplete SUXOS / PM returns form to authorized employee for completion</li><li>• Signs and issues completed LOTO form</li></ul>

<b>Authorized Employee</b>	<ul style="list-style-type: none"> <li>• Notifies affected employee of work</li> <li>• Examines area ensuring that de-energizing will create no hazard</li> <li>• If the machine or equipment is operating, shut it down by the normal stopping procedure (push-button, switch, etc.)</li> <li>• De-activate the energy-isolating device so that the machine or equipment is isolated from the energy source(s)</li> <li>• Lockout the energy-isolating device with assigned individual lock. Stored or residual energy must be dissipated or restrained by grounding, blocking, repositioning, etc.</li> <li>• Ensure that the equipment is disconnected from the energy source by operating the normal operating control in a safe manner. Be sure to turn control back to the off position</li> <li>• The machine or equipment is now locked out</li> <li>• Performs "tryout" to ensure zero energy level</li> <li>• Begins work</li> <li>• Completes task</li> <li>• Seeks supervisor's approval</li> </ul>
<b>SUXOS or Supervisor</b>	<ul style="list-style-type: none"> <li>• Approves work done</li> </ul>
<b>Authorized Employee</b>	<ul style="list-style-type: none"> <li>• Notifies SUXOS or supervisor that equipment is to be energized</li> </ul>
<b>SUXOS or Supervisor</b>	<ul style="list-style-type: none"> <li>• Clear area and orders authorized employee to energize</li> </ul>

#### **Requirements for Using Group Lockout/Tagout**

1. The level of protection for a group performing work must be equal to that afforded to an individual performing work.
2. These steps will be followed when a crew, department, or other group is involved in work.
  - (a) Each authorized employee will place their personal lockout device on the group energy-isolation device.
  - (b) A multiple lockout (hasp) may be used to accept more than one lock if needed.
  - (c) For lockouts, a single lockout may be used with the key being secured in a lockout box or cabinet that allows for multiple locks. Each employee will secure their lock to the hasp on the lockout box or cabinet. As an employee completes his/her work, their authorized locking device will be removed from the key box or cabinet, multiple hasps.
  - (d) No one will begin work until the supervising individual deems the lockout is complete and work may safely begin.
  - (e) The supervisor is responsible for ensuring all personnel are clear of the equipment.
  - (f) The supervisor is also responsible for ensuring all steps of the lockout procedure are complete.

#### **Temporary Removal of Lockout/Tagout**

Should temporary removal of LOTO devices be required, the following mandatory procedures will be followed in the order listed.

1. The supervisor will assure that all tools have been cleared from the area.
2. The supervisor will remove all affected employees from the area.
3. Authorized employee(s) performing the maintenance activity will remove his/her LOTO device(s).
4. The supervising authorized employee will energize and proceed with testing.
5. The supervising authorized employee will de-energize and authorized employees performing the maintenance activity will reapply control measures and verify isolation before proceeding.

### **Release from Lockout/Tagout**

1. The authorized employee who initiated LOTO will inspect the area to ensure the machine or equipment serviced is free from tools and other items that may interfere with proper operation. Verify all machine guards are replaced properly and secured.
2. The authorized employee will ensure all affected and other employees are safely positioned or removed from the area.
3. The following steps describe the procedure for removing lockout / tagout devices.
  - (a) Each lockout / tagout device is to be removed by the employee who applied the device.
  - (b) If the employee who applied the device is unavailable (off site) and cannot be contacted, only an employer-authorized person may remove the device after personally assuring that it is safe to do so.
  - (c) The authorized employee must be made aware of the device removal before resuming work.
  - (d) Check the work area to ensure that all employees have been safely positioned or removed from the area.
  - (e) Verify that the controls are in neutral.
  - (f) Remove the lockout devices and reenergize the machine or equipment. Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

### **Steps That Will Be Used by the SUXOS to Audit This Procedure**

The lockout procedure will require authorized employees to submit a completed lockout permit to the SUXOS.

Upon completion of service or repair, the form will be returned to the SUXOS. This will allow the SUXOS to review forms and see that all work that requires lockout/tagout uses lockout/tagout. At least annually, the LOTO program will be reviewed and an inspection performed of an actual LOTO in progress to ensure procedures and requirements are being followed.

If deficiencies are recorded during the audit procedure, then the SUXOS and/or PM will require that affected individual(s) be retrained in LOTO.

- Retraining will be provided for all authorized employees and affected employees whenever there is a change in their job assignments; a change in machines, equipment, or processes that present a new hazard; or when there is a change in the energy-control procedures.
- Additional retraining will also be conducted whenever a periodic inspection under 29 CFR 1910.147(c)(6) reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy-control procedures.
- The retraining will reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

### **Topics to be Covered**

1. The training will ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of energy controls are acquired by employees. The training will include the following.
  - (a) Each authorized employee will receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
  - (b) Each affected employee will be instructed in the purpose and use of the energy-control procedure.

- (c) All other employees whose work operations are or may be in an area where energy control procedures may be used, will be instructed about the procedure, and about the prohibition relating to attempts to restart or energize machines or equipment that are locked out or tagged out.
2. When tagout systems are used, employees will also be trained in the following limitations of tags.
  - (a) Tags are essentially warning devices affixed to energy-isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
  - (b) When a tag is attached to an energy-isolating device, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
  - (c) Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are, or may be, in the area to be effective.
  - (d) Tags and their means of attachment must be made of materials that will withstand the environmental conditions encountered in the workplace.
  - (e) Tags may evoke a false sense of security and their meaning needs to be understood as part of the overall energy-control program.
  - (f) Tags must be securely attached to energy-isolating devices so that they cannot be inadvertently or accidentally detached during use.

The SUXOS/PM will conduct follow-up procedures to validate that the corrective actions have been implemented and that these actions are effective in preventing recurrences. Follow-up activities may include but are not limited to the following.

- Conduct periodic inspections of the task where deficiencies were noted to ensure proper techniques are now implemented.
- Reiterate safety procedures during daily tailgate meetings to promote awareness of deficiencies.

#### **Recordkeeping Requirements**

Documentation of employee training will be maintained, certifying conformance to current regulatory and KEMRON requirements. The certification will contain each employee's name, signature, trainer signature, and dates of training.

#### **11.32. Standard Pre-Lift Plan – Load Handling Equipment**

The excavator operator will be certified to operate such machinery and will provide documentation prior to operation. Field personnel are to stay within the line of sight of the operator and be clear of moving equipment. Prior to operating load handling equipment, the SHSO and certified operator will conduct a visual and manual inspection of the equipment. The inspection will check for anything that might need to be repaired such as leaks, broken, missing, or damaged components. The SHSO will also visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.

#### **11.33. Critical Lift Plan – Load Handling Equipment**

Critical lifting activities are not associated with the tasks to be performed under this contract.

#### **11.34. Naval Architectural Analysis – Load Handling Equipment (Floating)**

Naval Architectural Analysis lifting activities are not associated with the tasks to be performed under this contract.

#### **11.35. Floating Plant Inspection and Certification**

Work above or adjacent to water is not associated with the tasks to be performed under this contract.

### **11.36. Severe Weather Plan for Marine Activities**

Work above or adjacent to water is not associated with the tasks to be performed under this contract.

### **11.37. Emergency Plan for Marine Activities**

Work above or adjacent to water is not associated with the tasks to be performed under this contract.

### **11.38. Man Overboard/Abandon Ship Procedures**

Work above or adjacent to water is not associated with the tasks to be performed under this contract.

### **11.39. Float Plan for Launches, Motorboats, and Skiffs**

Work above or adjacent to water is not associated with the tasks to be performed under this contract.

## **11.40. Fall-Protection and Prevention Plan**

There are no tasks to be performed under this contract that will require fall protection. However, the following fall-protection and prevention plan is provided as a supplement in the event that a situation arises at the project site where fall protection is needed.

The fall-protection plan, including elevated work and ladder safety is designed to protect employees performing elevated work from falls and injuries. Fall protection is required for construction or demolition-related work performed at an elevation of 6 feet or more above a lower level. Work on flat roofs and other flat fixed surfaces is not considered elevated work unless employees are: Within 15 feet or less of a roof edge that is greater than 6 feet in height; if employees can fall more than 6 feet to a lower level through a hole or opening that is greater than 6 feet in height, and protection must be provided to prevent employees from tripping or stepping into holes as long as they are at least 2 inches or more in size in their smallest dimension.

All operations where there are potential fall hazards will be conducted under the supervision of a trained competent person. The KEMRON Fall Protection SOP is included as **Attachment 5**, and will be referenced in the event that elevated work is required. KEMRON employees and contractors performing work on KEMRON job sites will adhere to the work practices outlined in the KEMRON Fall Protection SOP regarding the safe work practices.

#### **Responsibilities**

##### **UXOSO and/or PM Responsibilities**

The UXOSO and/or PM will ensure that elevated work hazards are properly identified in the project-specific health and safety plan, and employees involved in performing elevated work have been properly trained in accordance with this section.

The UXOSO and/or PM will ensure that a competent person is assigned to conduct the following activities as a monitor.

- Recognize fall hazards
- Warn employees if they are unaware of a fall hazard or are acting in an unsafe manner
- Be on the same working surface and in visual sight of employees performing elevated work
- Stay close enough for verbal communication
- Have no other assignments that would take the monitor's attention from his/her monitoring function.

## **Employee Responsibilities**

Each employee is responsible for following the project-specific health and safety plan, implementing this elevated-work procedure, and following verbal and written direction of the UXOSO and PM regarding safe work practices.

## **Procedures**

A Fall Protection Checklist, located in **Attachment 5** will be completed for each elevated work activity. Employees performing elevated work must be protected from falls with one or more of the following types of protection.

- Fixed work platforms with approved guardrail systems
- Safety net systems
- Personal fall arrest systems
- Safety belts or harnesses.

All equipment and raw materials for use in fall protection systems will conform to applicable ANSI and American Standard Test Method standards.

## **Scaffolds**

It is not anticipated that scaffolding will be associated with the tasks to be performed under this contract.

## **Vehicle-Mounted Elevating and/or Rotating Work Platforms**

It is not anticipated that vehicle-mounted platforms will be associated with the tasks to be performed under this contract.

## **Training**

Employees must be trained in elevated work practices and related equipment. Training will be provided by Marilyn Zumbro, KEMRON's CHSM, or a qualified person designated by the CHSM. Training requirements identified in 29 CFR 1926.503 follow.

## **Training Program**

- a. The employer will provide a training program for each employee who might be exposed to fall hazards. The program will enable each employee to recognize the hazards of falling and will train each employee in the procedures to be followed to minimize these hazards
- b. The employer will assure that each employee has been trained as necessary, by a competent person qualified in the following areas
  - a. The nature of fall hazards in the work area
  - b. The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used
  - c. The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used
  - d. The role of each employee in the safety-monitoring system when this system is used in lieu of other alternate methods
  - e. The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs
  - f. The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection
  - g. The role of employees in fall protection plans
  - h. The standards contained in this subpart.

### **Certification of Training**

- a. The employer will verify compliance with paragraph (a) of this section by preparing a written certification record. The written certification record will contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer.
- b. If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record will indicate the date the employer determined the prior training was adequate rather than the date of actual training.
- c. The latest training certification will be maintained.

### **Retraining**

- a. When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (a) of this section, the employer will retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:
  - a. Changes in the workplace render previous training obsolete; or
  - b. Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
  - c. Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

### **Ladders**

Ladders will likely be used during project activities at the AOI North of Castner Range project site. All operations where there is potential for ladder use will be conducted under the supervision of the SUXOS. An AHA will be completed by a trained competent person before beginning activities involving ladders. The KEMRON Ladder Safety SOP protocol is included in **Attachment 5**, and will be referenced in the event that elevated work is required. KEMRON employees and contractors performing work on KEMRON job sites will adhere to the work practices outlined in the KEMRON Ladder Safety SOP regarding the safe use of ladders.

### **11.41. Demolition/Renovation Plan (Engineering Survey)**

Demolition and/or Renovation is not associated with the tasks to be performed under this contract.

### **11.42. Rope Access Work Plan**

Rope Access work is not associated with the tasks to be performed under this contract.

### **11.43. Excavation/Trenching Plan**

Excavation activities are included as part of the expected work plans for the Lone Star Army Ammunition Plant site. KEMRON shall have Competent Person oversight over the work and all work shall be performed under the direction of the Competent Person. Excavation work will conform to EM 385-1-1 and 29 Code of Federal Regulations (CFR) 1926 Subpart P – Excavations, KEMRON procedures for Excavation and Trenching, and the project APP. Excavations greater than 4 ft. in depth may constitute a confined space; therefore, personnel will not be allowed to enter the excavation in sections greater than 4 feet. Confirmation sampling of COCs and PID field screening will be performed from the bucket of the excavator. All work will be conducted under the supervision of a Competent or Qualified Person(s). Currently field team personnel, whom are qualified competent persons for excavation, include the following:

- Jasper Senter

The current scope of work includes excavation of contaminated soils and general site grading. Other subcontractors or vendors will be working onsite and any other safety plans for subcontractors will be amended to the APP and must be as stringent as the requirements of the APP and SSHP approved for the project. The procedures for Trenching and Excavation are outlined in the SSHP

#### **11.44. Fire Prevention and Protection Plan for Underground Construction**

Underground construction activities are not associated with the tasks to be performed under this contract.

#### **11.45. Compressed Air Work Plan for Underground Construction**

Underground construction activities are not associated with the tasks to be performed under this contract.

#### **11.46. Erection and Removal Plan for Formwork and Shoring**

Formwork and shoring activities are not associated with the tasks to be performed under this contract.

#### **11.47. Precast Concrete Plan**

Pre-cast concrete activities are not associated with the tasks to be performed under this contract.

#### **11.48. Lift-Slab Plan**

Slab lifting activities are not associated with the tasks to be performed under this contract.

#### **11.49. Masonry Bracing Plan**

Masonry bracing activities are not associated with the tasks to be performed under this contract.

#### **11.50. Steel Erection Plan**

Steel erection activities are not associated with the tasks to be performed under this contract.

#### **11.51. Explosives Safety Siting Plan**

An Explosive Safety Siting Plan is associated with the tasks to be performed under this contract.

#### **11.52. Blasting Plan**

Blasting activities may be conducted if MEC is encountered during the project that is unknown or unable to be moved and must be “blown in place.” During the survey, a handheld analog metal detector will be used to locate metallic anomalies for intrusive investigation in accordance with local, state and federal requirements. KEMRON will investigate the anomalies using their clearance or excavation SOPs to characterize each anomaly as MEC, MD (munitions debris), or other metallic debris. If MEC is found, it will be positively identified and recorded as required by the WP. Any MEC or MD items identified will be inspected and any UXO will be detonated on site on a weekly basis or sooner if the nature of the item dictates more timely action. At that time, KEMRON will identify a location near the project site where an explosives magazine can be sited for storage and blow-in-place (BIP) operations.

BIP operations will be conducted in accordance with local, state and federal requirements and appropriate demolition SOP (electric or non-electric). If the MEC can be moved to a more remote location within the project boundary, the SUXOS, with approval from the Lone Star Army Ammunition Plant GDA and/or other government designated UXO safety specialists, will determine the best location for disposal. In

either case, engineering controls addressed in the Blasting Plan will be used to mitigate fragmentation and blast effects.

### **11.53. Dive Operations Plan**

Diving operations are not associated with the tasks to be performed under this contract.

### **11.54. Safe Practices Manual for Diving Activities**

Diving operations are not associated with the tasks to be performed under this contract.

### **11.55. Emergency Management Plan for Diving**

Diving operations are not associated with the tasks to be performed under this contract.

### **11.56. Tree Felling and Maintenance Program**

The contracted activities for the excavation of impacted soils from the Lone Star Army Ammunition plant include clearing and grubbing of surface features prior to excavation. A majority of the clearing and grubbing will include the removal and chipping of small brush and small (<6" diameter trees), however, the extent of the excavation could include portions of the vegetated areas where larger trees are present. This Tree Felling and Maintenance Program provides KEMRON employees with information regarding the policies for these practices.

#### **Responsibilities**

##### **SSHO and/or SM Responsibilities**

The SSHO and/or SM will ensure that clearing and grubbing hazards are properly identified in the project specific health and safety plan, and employees involved in clearing and grubbing work have been properly trained. The SM will ensure that a qualified person (currently assigned to the SSHO) is assigned to conduct the following activities as a monitor:

- Approve of the PPE level
- Recognize potential hazards
- Warn employees if they are unaware of a hazard or are acting in an unsafe manner
- Stay close enough for verbal communication and be in visible sight.

##### **Employee Responsibilities**

Each employee is responsible for following the project specific health and safety plan, implementing these clearing and grubbing work procedures, and following verbal and written direction of the SSHO and SM regarding safe work practices.

##### **PPE**

Employees performing clearing and grubbing work must be wearing the following types of protective equipment:

- Hard hat
- Eye protection
- Hearing protection (ear muffs or plugs)
- Chainsaw chaps, if using a chainsaw
- Leather work gloves
- Steel-toed boots

## **Equipment**

Equipment used for clearing and grubbing shall be regularly inspected and maintained in accordance with the manufacturer's specifications. Employees using the equipment will be trained prior to use and will be observed by the SSHO or other qualified individual during use. The clearing and grubbing equipment, which may be used on the Area 19 Construction and Demolition Waste Dump Removal and Disposal, includes:

- Heavy Equipment: Skid steer, Loader, Excavator
- Hand Tools
- Chain Saw
- Chipper

## **Felling**

When felling large trees, the following hazard considerations will be made, but are not limited to:

- Size, Shape, Condition, and Species of Tree
- Path of and Obstacles to the Fall
- Environmental: Wildlife, Wind and Terrain
- Work Area and Retreat Path
- Presence of Utilities
- Other Site Specific Considerations

Felling will be conducted by using a notch and back cut technique. No trees will be felled by slicing or ripping cuts. The notch shall not exceed 66% of the tree diameter. Tag lines should be used as deemed appropriate.

## **Utilities**

When working near overhead utilities, the worker shall consider the following:

- Nearby utilities will always be considered live
- Visual inspections will be made prior to work, to determine where potential utility hazards exist before clearing or grubbing work.
- If utilities cannot be avoided, then arrangements will be made with the utility provider to mitigate the hazard. Options may include de-energizing, isolation, and testing. If alternative options are considered then they must be approved by the COR, SSHO, and a utility representative.

## **Climbing**

NO climbing of trees will be conducted under this contract.

### **11.57. Aircraft/Airfield Construction Safety & Phasing Plan**

Work on or adjacent to an airfield is not associated with the tasks to be performed under this contract.

### **11.58. Aircraft/Airfield Safety Plan Compliance Document**

Work on or adjacent to an airfield is not associated with the tasks to be performed under this contract.

### **11.59. Site Safety and Health Plan for HTRW**

The Site Safety and Health Plan is included as Attachment 1. Also included in the SSHP are AHAs documenting the hazard analysis and evaluation of site-specific task(s)? The SSHO will update the

AHAs when site conditions or potential hazards change. Updated AHAs will be reviewed with all site employees during the daily tailgate safety meeting and accepted by the USACE PM.

## **11.60. Confined Space Entry Procedures**

Work within a confined space is not associated with the tasks to be performed under of this contract.

## **11.61. Confined Space Program**

Work within a confined space is not associated with the tasks to be performed under of this contract.

## **11.62. Load-Handling Equipment**

KEMRON will notify the COR 15 working days in advance of any LHE entering the site, in accordance with EM 385-1-1 so that necessary quality assurance spot checks can be coordinated. Before cranes begin work on a federal activity, a Crane Access Permit must be obtained from the KO. The contractor's operator must remain with the crane during the spot check. Rigging gear must comply with OSHA, American Society of Mechanical Engineers (ASME) B30.9 standards, manufacturers, and host nation safety standards.

Installation/use will comply with the LHE manufacturer's specifications and limitations for erection and operation of cranes and hoists used in support of the work and ensure erection under the supervision of a designated person (as defined in ASME B30.5) and perform all testing in accordance with the manufacturer's recommended procedures.

Equipment will comply with ASME B30.5 for mobile and locomotive cranes, ASME B30.22 for articulating boom cranes, ASME B30.3 for construction tower cranes, ASME B30.8 for floating cranes and floating derricks, ASME B30.9 for slings, ASME B30.20 for below the hook lifting devices, and ASME B30.26 for rigging hardware.

Gilbane will ensure that under no circumstance must a contractor make a lift at or above 90% of the cranes rated capacity in any configuration and when operating in the vicinity of overhead transmission lines, operators and riggers must be alert to this special hazard and follow the requirements of EM 385-1-1 Section 11, and ASME B30.5 or ASME B30.22 as applicable.

Crane or powered-industrial truck suspended or supported personnel work platforms (baskets) will not be used.

In addition, the following safety guidelines will be enforced.

- We will ensure that the subcontractor inspects, maintain, and recharge portable fire extinguishers as specified in National Fire Protection Association (NFPA) 10, Standard for Portable Fire Extinguishers.
- Confirm and communicate that employees must keep clear of loads about to be lifted and of suspended loads.
- Direct that cribbing is used when performing lifts on outriggers.
- Plan that the crane hook/block must be positioned directly over the load. Side loading of the crane is prohibited.
- Confirm a physical barricade is positioned prior to work to prevent personnel access where accessible areas of the LHE's rotating superstructure poses a risk of striking, pinching or crushing personnel.

### **Material Handling Equipment**

Material handling equipment such as forklifts will not be for lifting of personnel. The use of hooks on equipment for lifting of material must be in accordance with manufacturer's printed instructions. Operators of forklifts or power industrial trucks must be licensed in accordance with OSHA.

### **11.63. Contingency Plan for Inclement Weather**

All personnel must be aware of the possibility for inclement weather, such severe thunderstorms, hurricanes, high winds, rain, snow, extreme cold and hot temperatures, tornados and earthquakes. KEMRON employees, subcontractors, and site visitors must know the correct exits to use from all areas of the site and emergency assembly locations. Necessary precautions will be taken in the event of inclement weather which will be coordinated by the SUXOS. Local weather will be monitored by the SUXOS during suspected occurrences of severe weather to communicate with site personnel before inclement weather events begin.

In the event of inclement weather, the following procedures will be followed.

- All personnel will shut down field operations and take shelter in a vehicle or permanent structure.
- Upon notification that an evacuation is in progress, all company personnel and visitors will immediately use the nearest available exit and/or stop and proceed to their designated assembly location for a head count by the SUXOS.
- If a severe thunderstorm is in the area, stop outdoor work and move indoors, or stay inside a vehicle. Shut down and move away from heavy equipment. All outdoor activities will be suspended for 30 minutes following thunderstorms and lightening-producing weather events.
- In the event of a hurricane, all on-site operations will cease until the storm has cleared the area of work. The UXOSO will monitor the weather reports daily to monitor the movement of such storms in the area.
- In the event of high winds, all necessary precautions will be taken to eliminate injury and damage to equipment.
- In the event of heavy rainfall, precautions will be by the field team and safety personnel to eliminate the risk of injury.
- In the event of snow, precautions to all operations will be amended to eliminate the possibility of slips, trips, and falls while site operations are taking place.
- In the event of extreme temperatures, all precautions will be taken to eliminate heat and cold stress. The UXOSO will monitor for the effects of heat and cold stress for all personnel on site.
- In the event of tornado conditions, seek low ground such as a ditch or basement, and shield yourself from falling or flying objects.
- In the event of an earthquake, all site operations will cease and all personnel will take cover in appropriate locations determined by the UXOSO.

It is important to recognize that all severe weather events are not the same and the use of accepted practices, common sense and good judgment may be required. Therefore, site personnel must be cognizant to changing situations and be ready to adapt to potential emergency situations.

### **11.64. Fire Prevention and Protection Plan**

KEMRON maintains superior standards of fire protection to safeguard against damage to property and to prevent interruption of operations that may result from fires.

### **SUXOS Responsibilities**

The SUXOS responsibilities with regard to fire prevention and control are summarized in these three general points.

1. Maintain an awareness of fire hazards and assure the installation of positive safeguards.
2. Conduct regular, periodic inspections of work areas to assure that they remain in a fire-safe condition.
3. Indoctrinate each employee to develop a fire-conscious attitude for elimination of hazards and observance of safe practices and check their subsequent performance.

### **Fire Prevention Plan**

Good housekeeping is a principle factor in preventing fires. The supervisor can exercise direct control by doing the following.

- Eliminating accumulations of rubbish and unnecessary combustible materials
- Keeping doors, exits, and aisles clear
- Storing flammable liquids in safety cans
- Preventing leaks and spills of flammables
- Neatly piling stock and other materials.

### **Flammable and Combustible Materials**

KEMRON employees will be provided with a list that identifies any combustible materials on site. The list will also include the quantities, locations, and storage methods for the listed material.

### **Electrical Equipment**

Approved electrical equipment will be used in all areas of the facility. Electrical circuits will use circuit breakers as a means of preventing overload. All electrical circuit breaker boxes will be Underwriters Laboratories-listed and the wiring will meet the requirements of the National Electric Code.

### **Smoking Regulations**

Supervisors are responsible for rigidly enforcing NO SMOKING regulations among their own employees and others who enter their area of responsibility. Signs must be posted and smoking prohibited near flammable liquids and gases, and in areas where combustibles are stored or used. Appropriate receptacles for smoking materials must be provided and used where smoking is permitted.

### **Fire-Protection Equipment**

Using fire-protection equipment for other than fire emergencies is prohibited.

### **Fire Hose and Fixed Fire Equipment**

- Fire hose and fixed firefighting equipment used on KEMRON sites must meet applicable governmental and NFPA standards and be approved by location management.
- No part of a fire protection system will be closed nor operated without prior notice and approval of the SUXOS. This includes fire sprinkler control valves, sectional control valves, hydrants, hose standpipes, fixed extinguisher systems, or any other type of fire-protection system. Special tags will be issued by the SUXOS for fire-protection equipment when it must be closed, tested, or temporarily altered in any way.

### **Fire Extinguishers**

The following site fire extinguisher protection will be provided.

- A fire extinguisher rated not less than 2A is provided for every 3,000 square feet of building area. Travel distance to the nearest extinguisher must be 75 feet or less.
- Fire extinguishers are located on each floor and adjacent to stairwells on multistory buildings.
- Fire extinguisher users are identified and trained in accordance with applicable governmental requirements.
- A fire extinguisher rated not less than 10B will be provided within 50 feet of flammable or combustible liquids or flammable gases in quantities of more than 5 gallons or 5 pounds.
- Fire extinguishers are listed by a nationally recognized testing laboratory.
- Fire extinguishers are inspected monthly in accordance with NFPA No. 10, "Portable Fire Extinguishers."
- Fire extinguishers receive an annual maintenance check in accordance with 29 CFR 1910.157(e)(3).
- Fire extinguishers receive a hydrostatic test in accordance with 29 CFR 1910.157(f), "Hydrostatic Testing."
- Fire extinguishers are selected in accordance with 29 CFR 1926.150, Table F-1, "Fire Extinguisher Data."

#### **Four Classes of Fires:**

- **Class A** - involving paper, wood, cloth, and similar combustibles. Extinguishment is usually by cooling, generally with water.
- **Class B** - involving flammable liquids and similar materials where exclusion of air is most effective for extinguishment.
- **Class C** - electrical fire where cooling and/or exclusion of air is effective. However, non-conductive extinguishing agents must be used to avoid electric shock.
- **Class D** - metal fires.

#### **Types of Extinguishers:**

1. Pressure water - This type of extinguisher is for use only on Class A fires.
2. Dry chemical - This type of extinguisher is the most effective on Class B and Class C fires.
3. Carbon dioxide - This type of extinguisher will handle Class B and Class C fires but is less effective than the dry chemical extinguisher. However, it leaves no residue to clean up or contaminated equipment and is, therefore, desirable for use on small electrical fires.
4. Special extinguishing agents - In certain cases, an unusual fire hazard will be present, e.g., magnesium machining. When such situations arise, special fire extinguishing agents will be provided.

#### **Flammable Liquids and Gases**

##### **Indoor storage of flammable and combustible liquids**

The following are requirements for indoor storage of flammable and combustible liquids.

- Not more than 25 gallons stored outside of approved cabinets.
- Quantities of 25 gallons or more are stored in approved cabinet.
- Cabinets are labeled "Flammables - Keep Fire Away."
- Not more than 60 gallons of flammable or 120 gallons of combustible liquids are stored in any one cabinet and not more than 3 cabinets in a single storage area.

##### **Outside Storage Areas**

Outside storage areas must meet the requirements of 29 CFR 1926.152 (c), "Storage Outside Buildings."

- Flammable and combustible liquids are dispensed in accordance with 29 CFR 1926.152 (e), "Dispensing Liquids."
- Areas in which flammable or combustible liquids are transferred in quantities greater than 5 gallons from one tank or container to another tank or container will be separated from other operations by 25 feet of distance by construction having a fire resistance of at least 1 hour. Drainage, ventilation, or other means will be provided to maintain the concentration of flammable vapor at or below 10% of the lower flammable limit.
- Transfer of flammable liquids from one container to another will be done only when the containers are electrically interconnected (bonded).
- Flammable or combustible liquids will be drawn from or transferred into vessels, containers, or tanks within a building or outside only through a closed piping system or from safety cans. Flammable liquids will be transferred by means of an approved device drawing through the top of a container, or from portable tanks, by gravity or pump, or through an approved self-closing valve. Transferring by means of air pressure on the container or portable tanks is prohibited.
- The dispensing units will be protected against collision damage.
- Dispensing devices and nozzles for flammable liquids will be of an approved type.
- There will be no smoking or open flames in the areas used for fueling, servicing fuel systems for internal combustion engines, and receiving or dispensing of flammable or combustible liquids.
- Flammable liquids must be kept in closed containers when not in use and are not allowed, under any circumstances, within 50 feet of an open flame or ignition source.
- Tank trucks for refueling meet the requirements of the standard for tank vehicles for flammable and combustible liquids, NFPA No. 385, "Flammable and Combustible Liquid Tank Vehicles."
- Service and refueling areas must meet the requirements of 29 CFR 1926.152 (g), "Service and Refueling Areas."
- Temporary heating devices must be used in accordance with 29 CFR 1926.154, "Temporary Heating Devices."

### **Hot Work Procedures**

Hot work is any operation that involves flame or spark-producing operations. A Hot Work Permit (**Attachment 6**) is defined as the employer's written authorization to perform operations that could create a source of ignition, including the following.

- Riveting
- Welding
- Torch cutting
- Grinding
- Brazing
- Burning
- Heating
- Use of any open flame
- Use of spark-producing tools.

Where possible, hot work should not be conducted in the presence of flammable gases, vapors, liquids, or dusts (where an ignitable or explosive concentration can develop). Atmospheric testing before work begins, and periodically thereafter, will be conducted if the atmosphere in the work area has the potential to become hazardous.

Atmospheric testing will include % lower exposure limit (LEL), % oxygen (O<sub>2</sub>), and toxicity (organic vapors using a photoionization detector). Any employee responsible for conducting atmospheric testing

will be appropriately trained in the use of the equipment before beginning hot work. All equipment used for atmospheric testing will be calibrated following manufacturer's instructions before use and the results of such calibration noted in the instrument(s) log book, and appropriately noted on the Hot Work Permit.

Fire hazards must be removed from the area of the hot work whenever feasible. If the object requiring the hot work cannot be moved and all fire hazards cannot be removed, guards will be used to confine the heat, sparks, and slag and to protect the immovable fire hazards.

If hot work must be performed, the following permit procedures must be observed. Hot work performed in a confined space is subject to the additional requirements of KEMRON's Permit Required Confined Space program.

### **Permit Writer**

The following are the responsibilities of the Permit Writer.

- Inspecting the work area for a distance of at least 35 feet around the hot work area site, specifically locating and addressing flammables/combustibles in the work area.
- Documenting survey results and fire prevention/site preparation activities on the permit form.
- Ensuring equipment and area are properly prepared and are safe for the performance of the work.
- Ensuring that air monitoring has been completed.
- Checking for proper placement and availability of fire extinguishers and other safety equipment.
- Reviewing emergency procedures with persons conducting the hot work.
- Informing fire watch of fire hazards.
- Signing the Hot Work Permit after permit conditions are met.
- Monitoring work progress.
- Stopping work if an unsafe condition occurs.
- Immediately upon completion of work, inspecting work area(s) to determine they are safe for use by others.

### **Fire Watch**

The following are the responsibilities of the fire watch.

- Observing an area of at least 35 feet around the hot work area and maintaining the area free of combustibles and trip hazards.
- Performing no other duties while assigned on watch.
- Understanding and following the conditions listed on the Hot Work Permit.
- Be trained in the use of fire extinguishing equipment provided.
- Understanding the alarms and where/how to activate them.
- Notifying the person doing the work if any sparks are not contained in the work area.
- Sounding the alarm for assistance and extinguish any small fires started by sparks.
- Remaining on the scene from the start of work until 60 minutes after completion of all hot work.

### **Persons Doing the Work**

Persons doing the work must do the following.

- Read, understand, and follow all conditions listed on the Hot Work Permit.
- Advise other workers of any special conditions or precautions.
- Survey the work area to confirm safe working conditions. Know the location of the nearest telephone, fire alarm, emergency communication device, fire extinguisher, safety shower, first-aid kit, etc., before starting work, and know how to use all such safety devices.

- Confine all sparks as close to the work area as possible.
- Be aware of conditions in the work area and stop work if conditions change. Work will not resume until approved by the Permit Writer.
- Clean up and secure work area after job is completed.

### **Procedure**

- The Permit Writer will obtain a Hot Work Permit by advising the SUXOS in advance of expected hot work operations. Hot Work Permits are valid only for one work shift and for only those persons who are assigned and listed on the permit to perform the work.
- The Permit Writer will complete the information on the Hot Work Permit as accurately as possible. Include the date work is to be performed, a description of the work to be performed, name of persons performing the work, location where the work will be performed, and the time work will be performed. Complete the checklist on the Hot Work Permit.
- Complete and record results of initial air monitoring per the permit form. Initial monitoring will include %LEL, toxicity, and %O<sub>2</sub>.
- If %LEL readings exceed 10%, or other unsafe atmospheric conditions are identified, hot work may not be performed until explosive/dangerous conditions are mitigated.
- The completed Hot Work Permit will be returned to the SUXOS for review prior to commencement of the hot work.
- Post the permit in a conspicuous place while the work is in progress.
- Periodic air monitoring must be performed and results recorded on the permit form.
- Return the permit to the SUXOS when work is completed. Permits will be valid for one shift only.
- When any alarm sounds, stop all work, disconnect all electrical equipment, and secure all gas cylinders. Work will not resume until notification from the Permit Writer.

### **Fire Watch**

In addition to the above requirements, a fire watch will be present when any hot work is performed, as required.

- Fire watchers will be required whenever hot work is performed in locations where other than a minor fire might develop.
- Fire watchers will be required when appreciable flammable or combustible material is closer than 35 feet (10.7 meters [m]) to the point of operation.
- Fire watchers will be required when appreciable combustibles are more than 35 feet (10.7 m) away but are easily ignited by sparks.
- Fire watchers will be required when wall or floor openings within a 35-foot (10.7-m) radius expose combustible material in adjacent areas including concealed spaces in walls or floors.
- Fire watchers will be required when combustible materials are adjacent to the opposite side of metal partitions, walls, ceilings, or roofs and are likely to be ignited by conduction or radiation.
- Fire watchers will have fire extinguishing equipment readily available and be trained in its use. They will be familiar with facilities for sounding an alarm in the event of a fire. They will watch for fires in all exposed areas, try to extinguish them only when obviously within the capacity of the equipment available, or otherwise sound the alarm. A fire watch will be maintained for at least a half hour after completion of welding or cutting operations to detect and extinguish possible smoldering fires.

**Training and Recordkeeping**

Affected personnel will be trained in fire-suppression techniques upon initial assignment and at least annually thereafter. They will receive instruction in the following.

- Locations and proper use of the fire extinguishers supplied on site.
- Emergency notification procedures.
- Respiratory protective equipment that is required in the near vicinity of a fire.
- Techniques for smothering fires using available noncombustible materials.
- Emergency evacuation procedures in the event fires reach an out-of-control condition.

All personnel will be instructed in the SSHP emergency notification procedures.

Any employee responsible for conducting atmospheric testing will be appropriately trained in the use and proper calibration of the equipment before beginning work conducted under the Hot Work Permit.

Records will be maintained by the company whose employees have been trained for at least 3 years or until facility closure for current employees. Records for former employees will be retained for at least 3 years in appropriate personnel files at KEMRON offices.

Records of annual fire extinguisher maintenance will be retained for 1 year after the last entry or life of the shell.

## **12. RISK MANAGEMENT PROCESS**

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The KEMRON SSHP includes activity hazard analysis (AHA) for all major task. These activity hazard analyses identify the physical, chemical, and environmental hazards associated with each project task and provide the appropriate protective measures for the employees conducting the task the environment. AHAs are included in the KEMRON SSHP, Attachment 1 of this APP.

The activity hazard analyses will be modified by the SSHO and SM based on observed field conditions and when safety requirements change. The modified activity hazard analyses will be reviewed with all KEMRON employees, subcontractors, and site visitors and accepted by the USACE PM.

If the activity hazard analyses are modified to provide more stringent protective measures, then the SM, SSHO, Corporate CIH, and the CHSM shall determine the most appropriate upgrades to PPE. Employees will be notified of any PPE modifications by the SSHO.

If the activity hazard analyses are modified to provide less conservation protective measures then the SM and SSHO shall determine the appropriate downgrades based on observed site conditions. Employees will be notified of any PPE modifications by the SSHO.

## **13. CONTRACTOR INFORMATION**

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KEMRON safety and health programs meet the requirements of EM 385-1-1 to conduct work at the AOI North of Castner Range project site. The qualifications and safety plans to be implemented are presented in the following subsections.

### **13.1. Excavations**

During any excavation activities, KEMRON will have competent person oversee all work, and all work will be performed under the direction of the competent person. Excavation work will conform to EM 385-1-1 and 29 CFR 1926 Subpart P – Excavations, KEMRON procedures for excavation and trenching, and the project APP. Excavations deeper than 4 feet may constitute a confined space; therefore, personnel will not be allowed to enter the excavation in sections deeper than 4 feet without proper testing. Before beginning excavation activities, the names of the competent or qualified person(s) and training dates will be provided with documentation of competency/qualification to meet the OSHA specification(s).

The current need and extent of excavations is not currently known. Excavation and trenching plans, along with erosion and sedimentation control plans, and waste management plans would be incorporated into the overall WP for this project on an as-needed basis. Generally, the trenching and excavation plan provides employees on KEMRON project sites with procedures for trenching and excavation processes. Employees and contractors performing trenching/excavation do so in accordance with the following requirements.

For any future project tasks that include trenching and excavation, details will be submitted within the site-specific WPs. The approved WPs will be submitted to the appropriate government authorities and will include the following information.

- Names and qualification of competent person(s)
- Figures illustrating the aerial and cross section of excavation areas
- Estimated dimensions of the trench or excavation
- Soil type within the excavation area, and method for determination (described in sloping section)
- The location of underground and overhead utilities
- Associated digging permits
- Certified UXO clearance and/or UXO safety plan
- Waste Management Plan
- Erosion and Sedimentation Control Plan.

### **13.2. Scaffolding**

KEMRON's fall protection program is presented in **Section 12.29** of this APP.

### **13.3. Medical and First Aid**

KEMRON's program for medical support and first aid requirements is presented in **Section 10** of this APP.

### **13.4. Sanitation**

KEMRON's program for site sanitation is presented in **Section 12.32** of this APP.

### **13.5. PPE**

KEMRON's program for PPE usage is presented in **Section 11** of this APP.

### **13.6. Fire Prevention**

KEMRON's program for fire prevention is presented in **Section 12.3.3**, **Section 12.3.4**, and **Section 12.33** of this APP.

### **13.7. Machinery and Mechanized Equipment**

KEMRON's program for machine and mechanized equipment safety is presented in **Section 12** of this APP.

### **13.8. Electrical Safety**

KEMRON's program for electrical safety is presented in **Section 12.10** of this APP.

### **13.9. Public Safety**

Public education and the awareness program are presented in the Community Relations Plan.

### **13.10. Chemical, Physical, and Biological Exposure Prevention**

The chemical, physical, and biological hazards and exposure prevention is presented in **Attachment 1: SSHP**, Section 2.0.

## **14. SITE-SPECIFIC HAZARDS AND CONTROLS**

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The KEMRON SSHP includes an AHA for individual project tasks. These AHAs identify the physical, chemical, and environmental hazards associated with each project task and provide the appropriate protective measures for the employees conducting the task.

AHAs have been prepared for all tasks for the projects and are included in the KEMRON SSHP, **Attachment 1** of this APP. The activity hazard analyses will be modified by the UXOSO, SUXOS, and PM based on observed field conditions and when safety requirements change. The modified AHAs will be reviewed with all KEMRON employees, subcontractors, and site visitors.

If the AHAs are modified to provide more stringent protective measures, then the UXOSO and CHSM will determine the most appropriate upgrades to PPE. Employees will be notified of any PPE modifications by the SUXOS.

If the AHAs are modified to provide less conservative protective measures, then the UXOSO will determine the appropriate downgrades based on observed site conditions. Employees will be notified of any PPE modifications by the SUXOS and UXOSO.

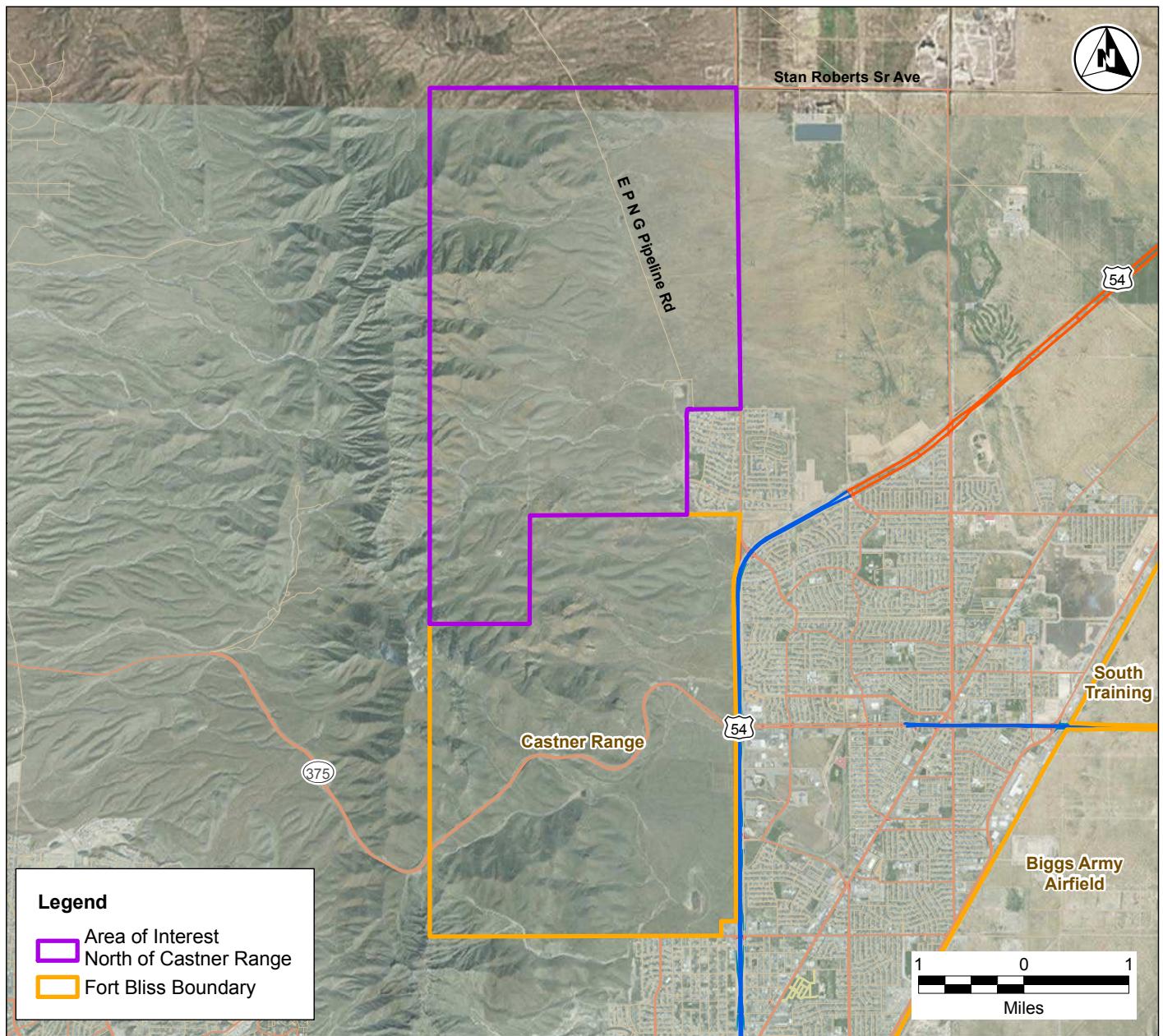
## 15. REFERENCES

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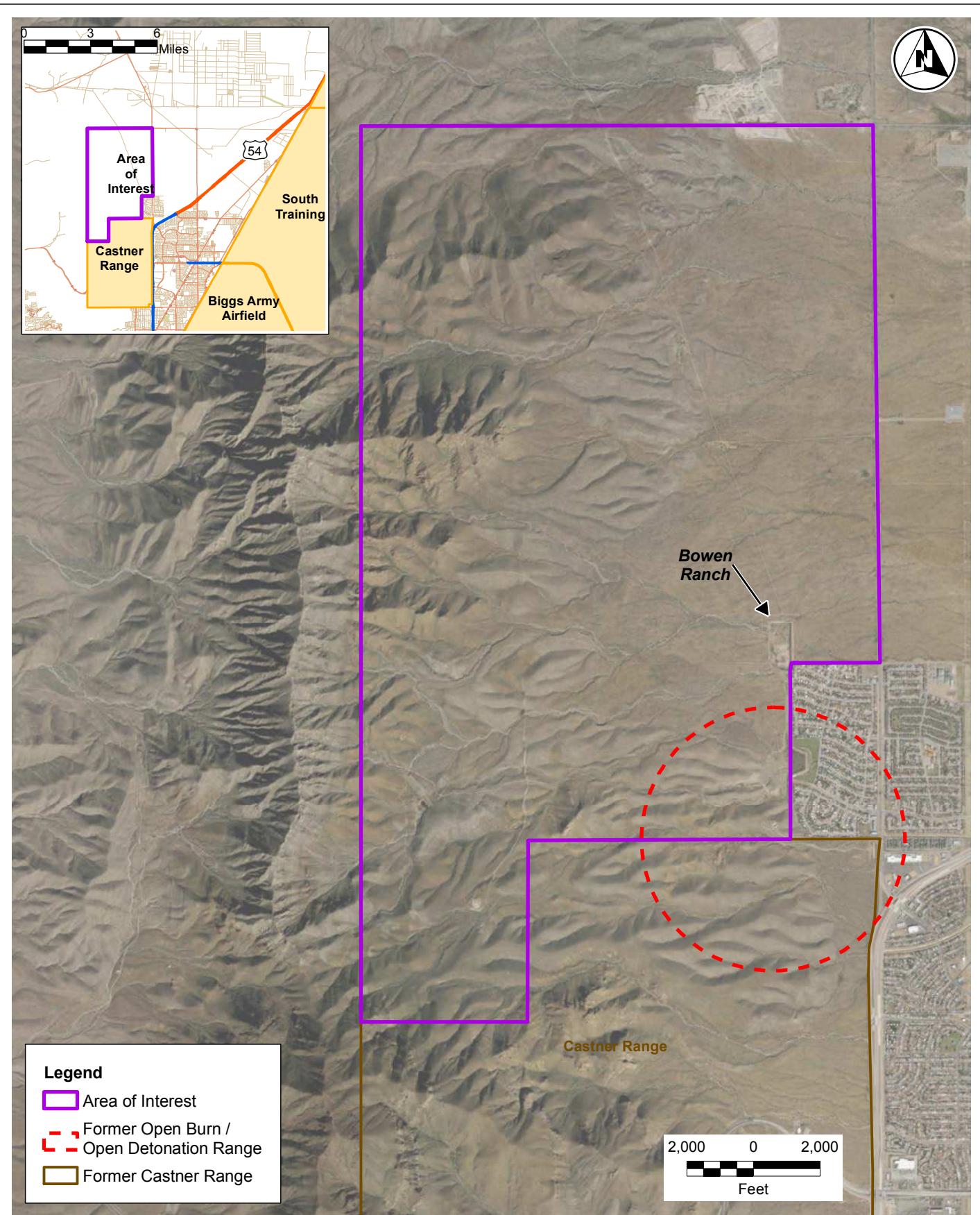
Department of Defense Explosives Safety Board, 2016. *Minimum Qualifications for Personnel Conducting Munitions and Explosives of Concern-Related Activities*. Technical Paper 18. September.

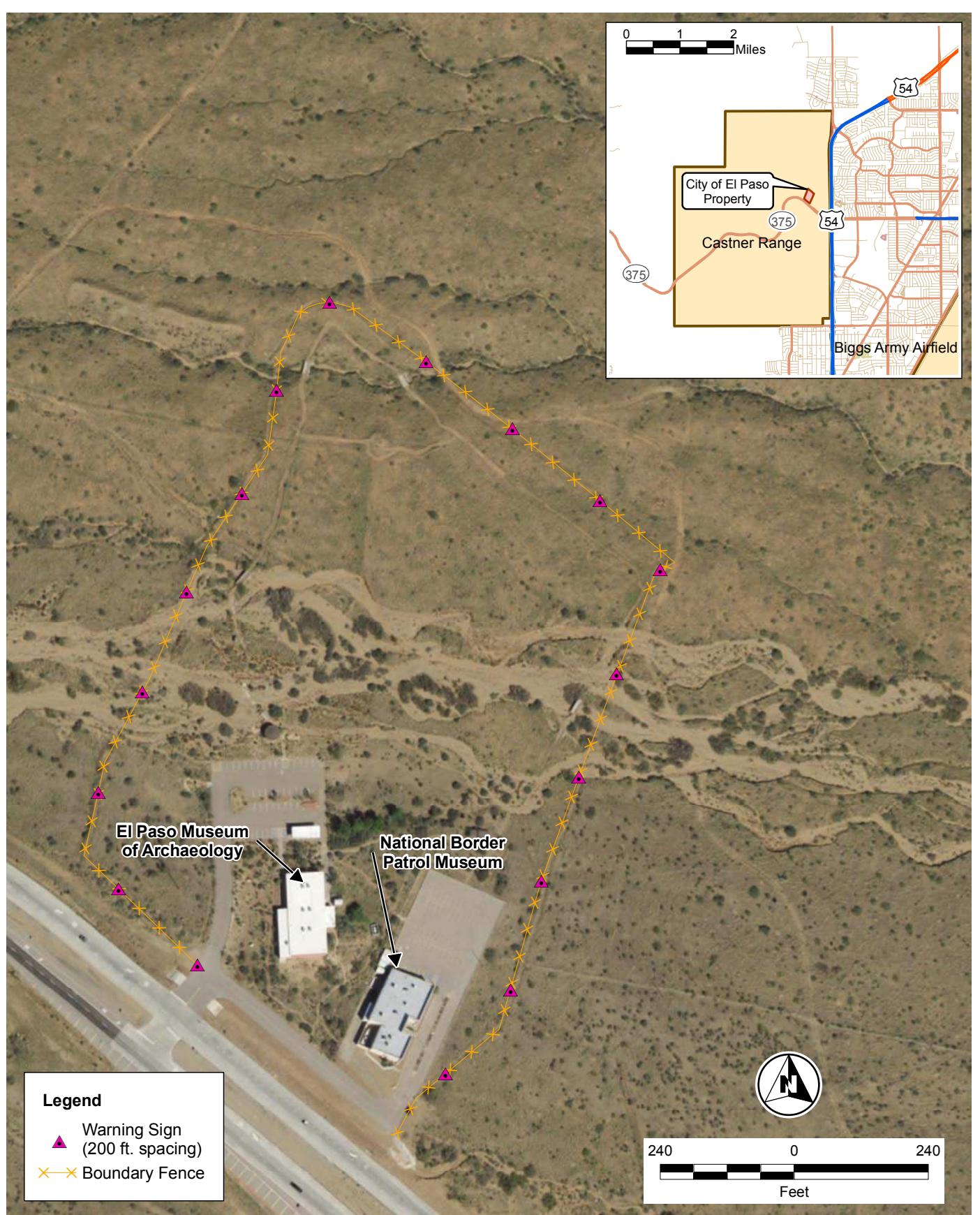
## **FIGURES**



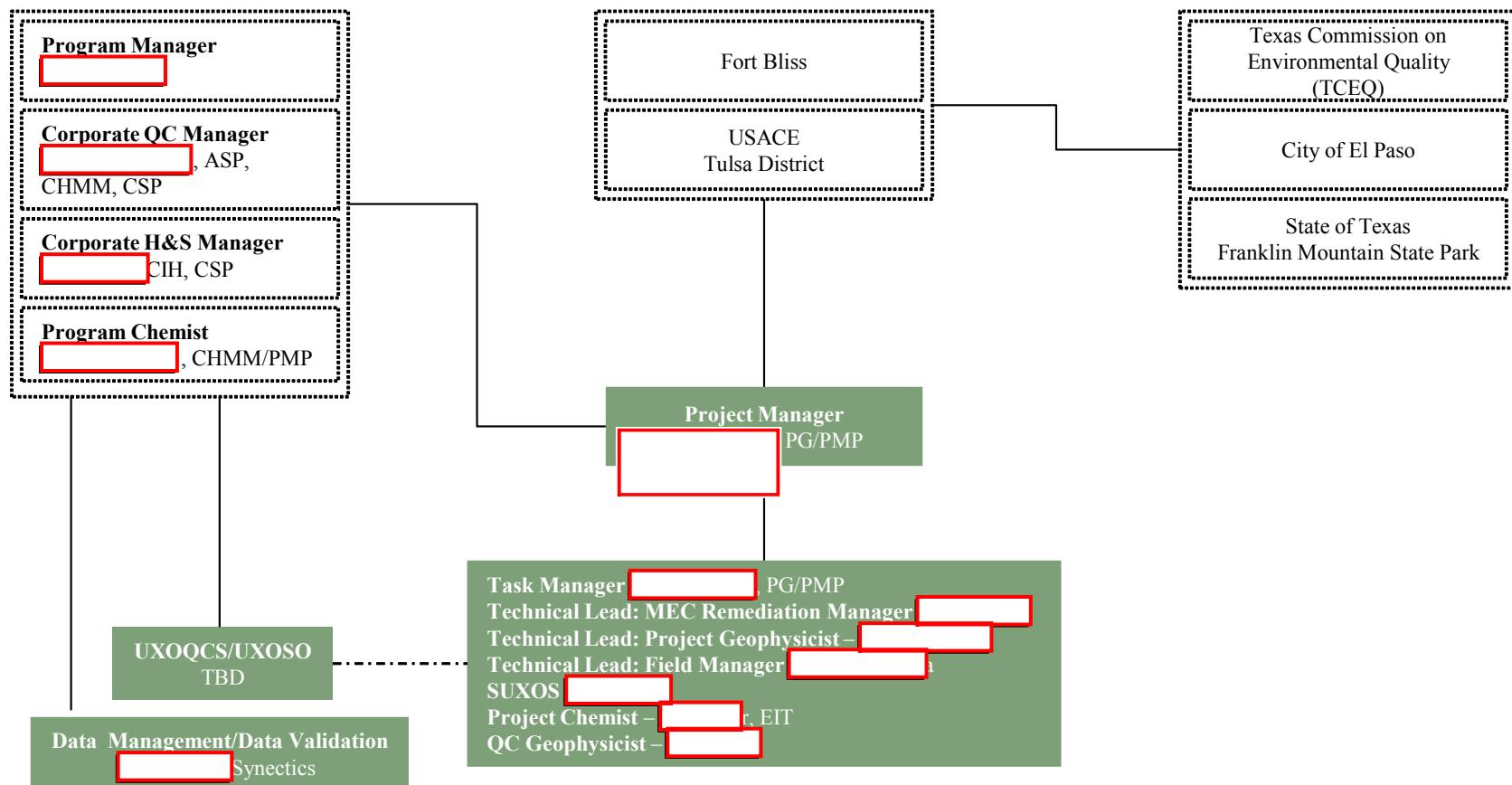
**Area of Interest North of Castner Range**  
USACE - Tulsa District  
El Paso, Texas

**Figure 2-1**  
Site Location Map  
Accident Prevention Plan





**Figure 2-3**  
Approximate Location of  
Fencing and Signage  
Accident Prevention Plan

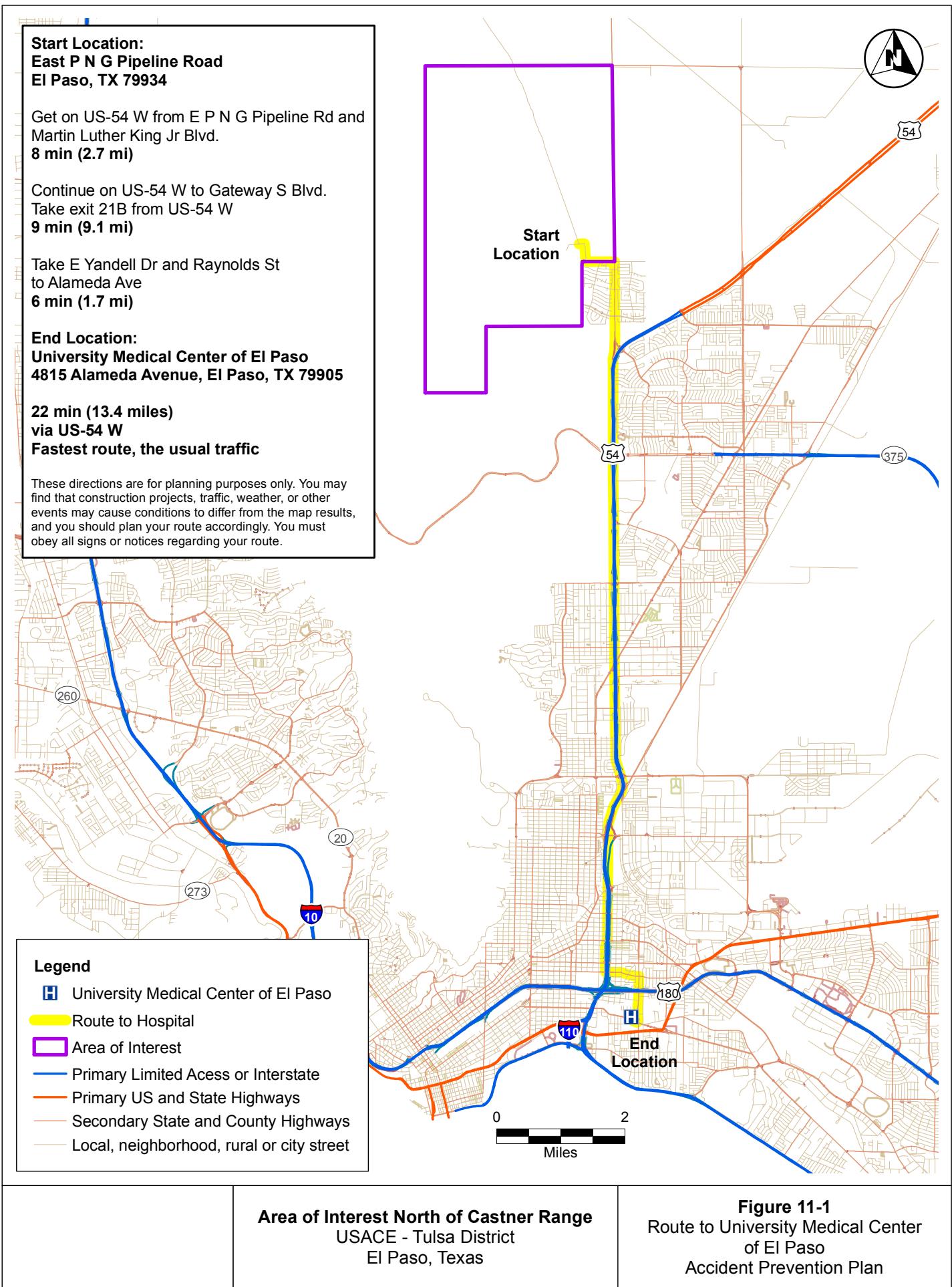


Notes:

ASP	Associate Safety Professional
CHMM	Certified Hazardous Materials Manager
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
SUXOS	Senior Unexploded Ordnance Supervisor
QC	Quality Control
USACE	United States Army Corps of Engineers
USAEC	United States Army Environmental Command
UXOQCS	Unexploded Ordnance Quality Control Specialist
UXOSO	Unexploded Ordnance Safety Officer

**Area of Interest North of Castner Range**  
**USACE - Tulsa District**  
**El Paso, Texas**

**Figure 4-1**  
**Project Organizational Chart**  
**Accident Prevention Plan**



**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**ATTACHMENT 1  
KEMRON Site Safety and Health Plan**

# **Site Safety and Health Plan**

## **Remedial Investigation/Feasibility Study**

### **for Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

**July 2018**

**Version: Final, Revision 0**

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**Site Safety and Health Plan  
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## Acronym List

°C	degree Celsius
°F	degree Fahrenheit
ACGIH	American Conference of Governmental Industrial Hygienists
AHA	Activity Hazard Analysis
ANSI	American National Standards Institute
AOI	Area of Interest
APP	Accident Prevention Plan
CCIH	Corporate Certified Industrial Hygienist
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CHEMTREC	Chemical Transportation Emergency Center
CHMM	Certified Hazardous Materials Manager
CHSM	Corporate Health and Safety Manager
CIH	Certified Industrial Hygienist
COC	Contaminant of Concern
COPC	Contaminant of Potential Concern
COR	Contracting Officer's Representative
CPR	Cardiopulmonary Resuscitation
CRZ	Contamination Reduction Zone
CSP	Certified Safety Professional
CTD	Cumulative Trauma Disorder
CWH	Chemical Weapon Hazard
CWM	Chemical Warfare Material
DDESB	Department of Defense Explosives Safety Board
DMM	Discarded Military Munitions
DO	Delivery Order
DoD	U.S. Department of Defense
EM	Engineer Manual
EMS	Emergency Medical Services
EOD	Explosive Ordnance Disposal
EZ	Exclusion Zone
FEMA	Federal Emergency Management Agency
H&S	Health and Safety
HAZCOM	Hazard Communication
HAZWOPER	Hazardous Waste Operations and Emergency Response (OSHA)
KEMRON	KEMRON Environmental Services, Inc.
MDAS	Material Documented as Safe
MEC	Munitions and Explosives of Concern
mg/m <sup>3</sup>	Milligram per Cubic Meter
MMRP	Military Munitions Response Program
MPPEH	Material Potentially Presenting an Explosive Hazard
NRC	National Response Center
OSHA	Occupational Safety & Health Administration
PEL	Permissible Exposure Limit
PG	Professional Geologist
PM	Project Manager
PPE	Personal Protective Equipment
QA	Quality Assurance

**Site Safety and Health Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

QC	Quality Control
RAC	Risk Assessment Code
SDS	Safety Data Sheet
SOP	Standard Operating Procedure
SSHO	Site Safety and Health Officer
SSHP	Site Safety and Health Plan
SUXOS	Senior UXO Supervisor
SZ	Support Zone
TBD	To be determined
TEU	U.S. Army Technical Escort Unit
TLV	Threshold Limit Value
USACE	U.S. Army Corps of Engineers
USAESCH	U.S. Army Engineering Support Center, Huntsville
UXO	Unexploded Ordnance
UXOSO	UXO Safety Officer
WBGT	Wet Bulb Globe Temperature
WERS	Worldwide Environmental Remediation Services

## 1. SIGNATURE SHEET

KEMRON Environmental Services, Inc. (KEMRON) has been contracted by U.S. Army Corps of Engineers, Tulsa (USAESCH) for environmental remediation services performed at Area of Interest (AOI) North of Castner Range in El Paso County, Texas. The Accident Prevention Plan (APP) Figure 2-1 and Figure 2-2 illustrate the site location and site features for the AOI project site, respectively. This Site Safety and Health Plan (SSHP) has been prepared to identify and address physical, chemical, and environmental hazards that may potentially affect employees, subcontractors, and site visitors at the Military Munitions Response Program (MMRP) site. This SSHP has been prepared for USAESCH pursuant to and in accordance with contract number W912DY-10-D-0027. This SSHP has been prepared in accordance with Worldwide Environmental Remediation Services (WERS) -018.01.

This SSHP is intended to summarize and guide the site activities performed under the direction of KEMRON at the AOI project site. KEMRON's and its subcontractors will be required to develop, implement, and enforce site safety and health plans for their employees and subcontractors. KEMRON will review these plans to ensure conformance with the requirements of this SSHP. Additionally, KEMRON will maintain oversight of its subcontractors to ensure conformance with the requirements of this plan. All such plans are required to adhere to applicable requirements of 29 Code of Federal Regulations (CFR) 1910 and 29 CFR 1926, U.S. Army Corps of Engineers (USACE) Engineer Manual (EM) 385-1-1 Safety and Health Requirements, and to KEMRON's SSHP.

The signatures below indicate that this SSHP has been prepared and reviewed by qualified safety and health personnel and has been approved for implementation by KEMRON.



4/12/2017  
DATE

4/12/2017  
DATE

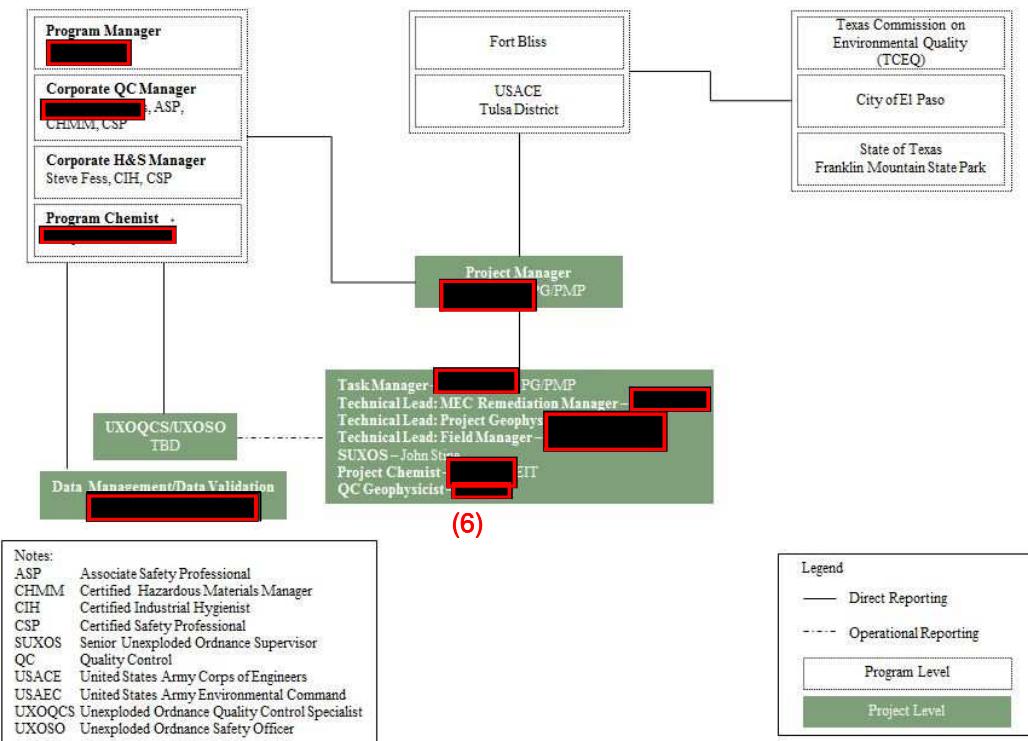
4/12/2017  
DATE

4/12/2017  
DATE

## 2. RESPONSIBLE SITE AUTHORITY

Direction and administration of our safety program is a corporate responsibility; implementation is the overall and direct responsibility of each individual and then collectively the Project Managers (PMs), SUXOS, Safety Officer, Quality Control Specialist, technicians, and workers who provide the guidance, support, and resources necessary to promote compliance with all aspects of the safety program. The roles and responsibilities are shown in **Figure 2-1**.

**Figure 2-1 Project Organizational Chart**



KEMRON project staff will include personnel from various departments within the organization. The following KEMRON employees will have critical roles in the safe execution of this project.

- KEMRON Program Manager: Ralph Brooks
- KEMRON PM: Daniel Burnett, Professional Geologist (PG), Project Management Professional
- KEMRON UXO Quality Assurance/Quality Control (QA/QC) Manager: Leland Meadows
- KEMRON Health and Safety (H&S) Manager/CCIH: Steve Fess, Certified Industrial Hygienist (CIH), Certified Safety Professional (CSP).

### **KEMRON Program Manager: Ralph Brooks**

Ralph Brooks is responsible for the progress of the work at the program level. He supervises all personnel to ensure appropriate employee performance for site work, health and safety compliance, completing accident/incident reports, and enforcing corrective actions. The Program Manager, or designee, will have work stoppage authority for the project. In addition, the Program Manager has the following responsibilities.

- Fostering an office wide commitment to KEMRON's health and safety policy and goals.
- Supports the PM to ensure that safety and health requirements are met.

- Overall contract conformance to U.S. Army requirements and specifications, including technical, cost, and schedule.
- Allocate sufficient resources to ensure successful completion of the project.
- Manage the project budget and schedule, with concurrence from the U.S. Army and regulators, thereby ensuring project requirements are satisfied.

**KEMRON Project Manager: Daniel Burnett, PG, PMP**

Mr. Burnett is responsible for all day-to-day activities of the work at the project level and will have overall responsibility for project safety requirements. He supervises all project personnel to ensure that all on-site work is performed in compliance with the project specifications and maintains direct communication with the Program Manager and the COR. The PM will have work stoppage authority for the project. In addition, the PM has the following responsibilities.

- Communicate office-specific health and safety needs to the Corporate Health and Safety Manager (CHSM) and SUXOS, as appropriate.
- Direct audits of the administration of health and safety programs on job sites.
- Ensure compliance with the SSHP.
- Support the SUXOS to ensure that safety and health requirements are met.
- Review and approve the final reports and support files on the project activities.
- Assume overall responsibility for the success and proper execution of the project.
- Initiate project planning and project implementation.
- Manage the project budget and schedule, with concurrence from the U.S. Army and regulators, thereby ensuring project requirements are satisfied.

**KEMRON QA/QC Manager: Leland Meadows**

Mr. Meadows is responsible for monitoring the progress of the work at the project level. He supervises all personnel to ensure appropriate employee performance for site work, health and safety compliance, completing accident/incident reports, and enforcing corrective actions. The QA/QC Manager has the following responsibilities.

- Direct audits of the administration of health and safety programs on job sites.
- Support the SUXOS to ensure that safety and health requirements are met.
- Review and approve the final reports and support files on the project activities.
- Oversee contract conformance to project requirements and specifications, including technical, cost, and schedule.
- Initiate project planning and project implementation.

**KEMRON Corporate H&S Manager/CCIH: Steve Fess, CIH, CSP**

Mr. Fess is responsible for developing and administrating KEMRON's Corporate Environmental, Health, and Safety Program. The CHSM reports directly to the Executive Vice President on all health and safety issues. Corporate health and safety representatives may conduct site audits and inspections, but will not be on site during all project activities. Responsibilities of the Corporate Environmental, Health, and Safety Program include the following.

- Foster a companywide commitment to KEMRON's health and safety policies and goals.
- Develop and maintain health and safety SOPs and policies.
- Review all accident / incident reports and initiate additional investigation when necessary.
- Obtain authorization to fund health and safety training and equipment.

The CCIH is responsible for developing, overseeing, and enforcing the APP and SSHP. All site activities will be performed under the direction of the CCIH throughout the duration of the project. However, the CCIH will not be on site throughout project activities. The CCIH may visit the site on an as-needed basis to audit the procedures and ensure proper implementation of the APP and SSHP. Additional responsibilities for the CCIH include the following.

- Conduct and/or supervise any initial site-specific training.
- Provide safety and health support the project at the startup of the project, for major phases of work, and for task-specific situations requiring additional oversight.
- Conduct, supervise, or direct periodic inspections/audits to determine if the APP is being followed.
- Support the PM and SUXOS during emergencies.
- Coordinate any modifications to the APP or SSHP with the SUXOS and PM.
- Determine the appropriate PPE levels for each task, and work with SUXOS to identify appropriate downgrade/upgrade situations.
- Review and evaluate the air monitoring data and make decisions concerning engineering controls, work practices, and levels of PPE.
- Review the daily QC reports and any accident / incident / near-miss reports.
- Serve as a member of the contractor's QC staff.

#### **KEMRON SUXOS: John Stine**

The SUXOS will be responsible for overseeing and implementing overall project operations including MEC-avoidance and removal operations. The SUXOS will also lead the public education program, which will educate the community on the ongoing remedial efforts at the site. The SUXOS has the following responsibilities.

- Help develop site-specific work plans.
- Evaluate the sites to determine the level of support that is required to safely conduct the given operation.
- Oversee UXO personnel that provide explosive ordnance recognition, escort, location, and safety functions during anomaly-avoidance activities.
- Make arrangements for military munitions removal or disposal actions in the event that the work area is too contaminated with MEC/MPPEH to safely allow non-UXO personnel to work in the area.
- Ensure that exact location of any military munitions-related items encountered are accurately captured with the aid of a digital global positioning system, and that those coordinates are properly reported and recorded in the geographical information system.
- Ensure that the AOI is clearly marked or delineated.
- Ensure that MEC safety briefings are given to all site personnel and visitors.
- Take operational control of a site until properly relieved, in the event hazardous MEC/MPPEH is encountered.

#### **KEMRON UXOSO: TBD**

The UXOSO is responsible for managing, implementing, and enforcing the APP and SSHP. The UXOSO will report site-specific safety issues and concerns to the PM, SUXOS, and CCIH. The UXOSO role is considered equivalent to the Site Safety and Health Officer (SSHO) role. The UXOSO will meet the experience and qualification requirements of the SSHO, in accordance with USACE EM 385-1-1. He will be responsible for ensuring daily compliance with and implementation of the SSHP, including such issues as PPE, training, policy enforcement, health monitoring, and report preparation, among others. The UXOSO is responsible for conducting the daily tailgate safety meetings, and also responsible for

decontamination procedures, equipment, and supplies. The UXOSO will be on site at all times during project activities. Specific responsibilities of the UXOSO follow.

- Ensure that all personnel conduct project activities in accordance with the health and safety plan, and initiate disciplinary action for safety violations, in conjunction with PM and CCIH, as necessary.
- Inform KEMRON and subcontractor personnel of KEMRON health and safety policies and their application to potential hazards associated with specific site operations;
- Work with the CCIH, PM, and SUXOS during any modifications to the APP and/or SSHP.
- Correct work practices or conditions that may result in injury or exposure to toxic substances.
- Complete accident, injury, and illness investigation reports and notify line management of all job-related illnesses or injuries.
- Coordinate on-site emergency response activities and emergency care.
- Monitor all personnel performance for compliance with safe work practices, including the SSHP.
- Advise the CCIH of deviations from safe work practices and of methods to correct the problem.
- Continually evaluate environmental conditions such as weather, chemical, physical, etc. and recommend necessary modifications to the PM and CCIH, to ensure personnel safety.
- Conduct safety training and daily safety meetings.
- Ensure that all documentation necessary for health and safety programs is generated and maintained.
- May stop any activity on site and/or the entire operation when conditions immediately dangerous to life and health are identified.
- Ensure protective clothing used is consistent with the requirements of the SSHP.
- Periodically inspect site operations, identify deficiencies, and recommend corrective actions.
- Ensure that PPE are properly stored and maintained.
- Control entry and exit at the access control points.
- Coordinate safety and health program activities with on-site essential personnel.
- Confirm each team member's suitability for work based on a physician's recommendations.
- Monitor the work parties for signs of stress such as cold exposure, heat stress, and fatigue.
- Help implement the SSHP.
- Enforce the "buddy" system.
- Set up decontamination lines and the decontamination solutions appropriate for the type of chemical contamination on site.
- Control the decontamination of all equipment, personnel, and samples from the contaminated areas.
- Help dispose of contaminated clothing and materials.
- Ensure that all required equipment is available; advise medical personnel of potential exposures and consequences.
- Maintain awareness of emergency procedures, evacuation routes, and the telephone numbers of the plant emergency services, ambulance service, local hospital, poison control center, fire department, and police department.
- Notify, when necessary, local public emergency officials.
- Approve the APP and SSHP.

#### **UXO Technicians (UXO Technician I and higher)**

Each UXO team will include, at a minimum a UXO Technician III Team Leader and one UXO Technician II. Additional UXO Technicians may be added to each team as needed. The UXO Tech I and higher will have EOD/UXO experience and qualifications as stated in Table 4.2 DDESB TP 18 (DDESB, 2016).

## 3. SITE DESCRIPTION AND HISTORY

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### 3.1. Site History and Background

Fort Bliss is a U.S. Army post in the states of New Mexico and Texas, with its headquarters located in El Paso, Texas. Fort Bliss has an area of about 1,700 square miles (4,400 square kilometers). It is the U.S. Army's second-largest installation; the largest is the adjacent White Sands Missile Range, New Mexico. It is the largest U.S. Army Forces Command—or FORSCOM—installation, and has the U.S. Army's largest maneuver area (992,000 acres or 4,014 square kilometers), more than the National Training Center (642,000 acres or 2,598 square kilometers). Fort Bliss provides the largest contiguous tract (1,500 square miles or 3,900 square kilometers) of restricted airspace in the continental United States. The airspace is used for missile and artillery training and testing.

The AOI North of Castner Range is 7,936 acres in El Paso County, Texas. The remedial investigation area will include approximately 5,860 acres. It is located north of the Closed Castner Range, not owned by Fort Bliss, and is bounded by Martin Luther King Boulevard on the east and Franklin Mountains State Park on the west. Housing developments exist to the south, and a quarry operates just north of the northern boundary. The buildings currently on site include the unoccupied Bowen Ranch buildings. The site location is shown on Figure 2-1 and site features are shown on Figure 2-2, both in the APP.

### 3.2. Scope of Work

The objectives of this delivery order (DO) are to perform a remedial investigation / feasibility study and to achieve stakeholder acceptance of a Proposed Plan and Decision Document for the 5,860-acre AOI North of Castner Range in El Paso County, TX. The DO also includes installing fencing and signage around the El Paso Museum of Archaeology and the National Border Patrol Museum, located on the closed Castner Range as shown on APP Figure 2-3.

### 3.3. Site Hazards

Based upon a review of available information, a summary of the hazards that are expected to be encountered by personnel working in support of this project are provided in **Table 3-1**.

**Table 3-1 Hazards Expected On Site**

<b>Site</b>	<b>Hazard</b>	<b>Chemical Hazards</b>	<b>Source/Media</b>	<b>Estimated Quantity/Volume</b>
AOI North of Castner Range	Munitions debris	Explosives 75-mm Mk1 (shrapnel) projectile	Soil	Unknown
<b>Biological</b>				
AOI North of Castner Range	Stings, bites from venomous insects or wild animals	N/A	Snakes, insects (ticks, bees, wasps, hornets); spiders (black widow, brown recluse); wild boar; black bear	N/A
	Contact dermatitis and/or allergic reaction	Urushiol oils	Poison ivy, oak, and sumac	N/A

Site	Hazard	Chemical Hazards	Source/Media	Estimated Quantity/Volume
<b>Physical</b>				
AOI North of Castner Range	Noise (excessive decibel levels)	N/A	Mechanical equipment, demolition operations	>85 dBA
	Slips, trips, falls	N/A	General terrain, roots, ruts, etc.	N/A
	Lifting/exertion/ repetitive motion, cuts/abrasions	N/A	Manual activity	N/A
	Fire/explosion	N/A	Demolition operations (UXO)	N/A
	Heat/cold	N/A	Weather	N/A
	UV/sunburn	N/A	Sun	N/A

**Notes:**

dBA- decibel

AOI – Area of Interest

NA – not applicable

UV – ultraviolet

UXO – unexploded ordnance

### 3.3.1. Chemical Weapon Hazards

A review of the available documentation indicates that chemical weapon hazards (CWHs) associated with this site are unlikely to be encountered. In the event any chemical warfare material (CWM) hazard is encountered, the procedures below will be followed.

Before beginning intrusive operations, the Senior Unexploded Ordnance (UXO) Supervisor (SUXOS) will establish safe egress routes and rally points (safe locations) for personnel evacuation. These safe locations will be determined by the SUXOS based on wind direction, terrain, elevation, and reasonable safe controlled movement from the work area. A preliminary emergency meeting location (rally point) for the AOI project site will be determined once on site.

If an event should occur where suspect CWM is encountered, the KEMRON employee finding the suspect CWM will mark the location with red pin flags and notify the SUXOS immediately. At least two (2) UXO-qualified personnel will visually monitor the suspect site 24 hours a day/7 days a week from a safe distance (1,476 feet or 450 meters) upwind of the suspect location, and remain in place until relieved by other qualified KEMRON UXO-qualified person(s), or in writing by the Contracting Officer's Representative (COR).

KEMRON's UXO personnel are to secure, warn, inform, and control access to a suspect CWM item and site to all persons. UXO personnel may only grant access to USACE Safety Specialist(s) or active duty military explosive ordnance disposal (EOD) and U.S. Army Technical Escort Unit (TEU) qualified personnel. KEMRON UXO-qualified personnel will stand by for additional instructions from the COR.

### 3.3.2. Chemical Hazards

There are no known chemical hazards at the AOI project site. Previous investigations did not show any munitions constituents above regulatory limits.

## 3.4. Duration of Planned Activities

Field activities are expected to commence in the first quarter of 2018. The duration of the field activities will be determined after project plans are finalized.

## **4. PERSONAL PROTECTIVE EQUIPMENT**

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This section addresses KEMRON's policies and procedures for providing PPE to reduce the frequency and severity of injury. This section addresses the requirements of 29 CFR 1910.120(g) (5), 29 CFR 1910.134, and 29 CFR 1910.132.

Engineering controls will be employed to eliminate and/or minimize exposure potential to the extent practicable. Where engineering controls alone cannot reduce exposure potential to less than published exposure limits, PPE will be employed. PPE reduces contaminant levels below permissible exposure limit (PEL). The goal, however, is no exposure. If operations proceed as planned, the concentration of contaminants will always be less than PEL. PPE is necessary in case there is a leak or system failure. As a conservative measure, PPE will be worn at any time there is a potential for exposure. Levels of protection and descriptions are provided in Section 11 of the APP.

Each task was analyzed by the SSHP preparer and the CCIH for hazards prior to PPE selection. The UXOSO will verify hazard conditions before allowing personnel to begin work on each task

### **4.1. PPE Upgrade/Downgrade Criteria**

Each task was analyzed by the SSHP preparer and the CCIH for hazards prior to PPE selection. The UXOSO will verify hazard conditions before allowing personnel to begin work on each task. If hazard levels appear to have changed from the original assessment, the UXOSO will contact the PM and SUXOS for consultation with recommendations for PPE level changes/adjustment. No increase in PPE level or adjustment is expected based on site history and task hazard analyses. However, the UXOSO has the authority to upgrade the specified minimum level of PPE based on site conditions.

Upgrades to the level of protection at the site will be at the direction of the UXOSO. It is not anticipated that PPE upgrades will be required. If site conditions change and warrant an upgrade, personnel will stop work, evacuate the area, and the UXOSO (in conjunction with the KEMRON CIH) will direct required PPE upgrades. Reasons to upgrade include:

- Known or suspected presence of dermal hazards;
- Occurrence or likely occurrence of gas, vapor, or dust emission; and
- Change in work task that will increase the exposure or potential exposure to hazardous materials.

A downgrade from the specified minimum PPE level can only occur through formal approval by the CCIH. There will be no downgrade from Level D. Reasons to downgrade include:

- New information indicating that the situation is less hazardous than was originally suspected,
- Change in site conditions that decrease the potential hazard, and
- Change in work task that will reduce exposure to hazardous materials.

### **4.2. Inspection and Maintenance of PPE**

The UXOSO and each user will be responsible for conducting daily inspections of the PPE in use at the site and recommending replacement or repair as needed to the SUXOS.

#### 4.3. Task-Specific Levels of Protection

**Table 4-1 Task-Specific Levels of PPE**

<b>MMRP FIELD ACTIVITIES COVERED UNDER THIS PLAN</b>				
<b>Task Description</b>	<b>Type</b>	<b>Primary</b>	<b>Contingency</b>	<b>Applicable tasks</b>
Prepare plans	Non-Intrusive	N/A	Modified D	Generate documents
Mobilize	Non-Intrusive	D	Modified D	Stage equipment
Prepare site	Intrusive	D	Modified D	Operate equipment
Perform civil survey	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Operate equipment operation</li> <li>• Perform hand-clearing</li> </ul>
Surface/subsurface clearance/analog all metals detector survey	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Use handheld analog metal detector to clear to 6 inches below ground surface</li> <li>• Locate utilities</li> <li>• Identify and mark surface MEC/CWM</li> </ul>
Anomaly detection and excavation	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Inspect subsurface scrap for MEC</li> <li>• Excavate</li> </ul>
MEC disposal	Intrusive	D	Modified D	Conduct demolition operations
MDAS certification and shipping	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Inspect MPPEH</li> <li>• Prepare/load containers</li> </ul>
Sample soil	Intrusive	D	Modified D	Sample soil
Restore site	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Perform final grading</li> <li>• Place vegetative cover</li> </ul>
Demobilize	Intrusive	D	Modified D	<ul style="list-style-type: none"> <li>• Breakdown decontamination area</li> <li>• Remove equipment</li> </ul>

## 5. SITE HAZARDS

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The anticipated hazards and the specific tasks expected under the scope of work are summarized in the Activity Hazard Analysis (AHA) forms (**Exhibit B**). These forms ensure compliance with the revised Occupational Safety & Health Administration (OSHA) standard 29 CFR 1910.132, and EM 383-1-1 (USACE) which requires assessing tasks and operational hazards where personal protective equipment (PPE) is required to protect personnel. Each form contains task-specific information related to hazard control and mitigation including specific engineering control measures if applicable, standard operating procedures (SOPs), equipment requirements, specialized training requirements, and PPE requirements.

All known or potential chemical, physical, safety, biological, and radiological hazards that may pose a threat to the health and safety of site workers have, to the extent possible, been identified and the risk of exposure assessed to ensure workers are adequately informed and protected. Emphasis has been placed on identifying situations and tasks that have known or may create immediately dangerous to life or health conditions, or any other condition with the potential for serious safety or health effects.

The overall hazards and risks associated with participation in operations on this site are low to moderate. Appropriate engineering controls will be incorporated to diminish the possibility of high-risk activities. Munitions and explosives of concern (MEC) (if encountered) will be destroyed by detonation on site. Material potentially presenting an explosive hazard (MPPEH) will be investigated and if it does not present an explosive hazard will be classified as material documented as safe (MDAS) and will be segregated for recycling.

Each identified existing hazard that cannot be corrected immediately will be assigned a risk assessment code (RAC). The RAC represents the degree of risk associated with the deficiency and combines the elements of hazard severity and probability level of occurrence. The RAC is derived as follows.

- **Hazard Severity** – The hazard severity is an assessment of the worst potential consequence, defined by degree of injury, occupational illness, or property damage that is likely to occur as a result of a deficiency.
- **Probability Level** – The probability level is the probability that a hazard will result in an incident, based on an assessment of such factors as location, exposure in terms of cycles or hours of operation, and affected population.

Evaluation of work site characteristics and hazards is an ongoing process, and on-site personnel will play a major role in continuing this evaluation throughout the duration of the project. All site workers must be vigilant in identifying and informing their supervisor of hazards.

### 5.1. Project-Specific Hazards

**Table 5-1** illustrates the hazards that are present when conducting the project-specific tasks.

**Table 5-1 Project-Specific Hazards**

Tasks	Physical						Classic Safety			Biological			
	Excessive Decibels	Heat/Cold Stress	Inclement Weather	Exertion	Repetitive Motion	Fire/Explosion	Sunburn	UXO	Slips, Trips, Falls	Cuts	Wildlife	Snakes	Biting/Stinging Insects
Site Preparation	✓	✓	✓	✓				✓	✓	✓	✓	✓	✓
Civil Survey	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓
Surface/Subsurface Clearance	✓	✓	✓	✓	✓		✓	✓	✓		✓	✓	✓
Anomaly Detection and Removal	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
MEC Disposal	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓
MDAS Certification and Shipping			✓					✓	✓		✓		
Soil Sampling		✓	✓	✓			✓		✓	✓	✓	✓	✓
Site Restoration	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓
Mobilization/ Demobilization			✓					✓	✓		✓		

## 5.2. Classic Safety

The following classic safety topic and mitigation steps may be encountered during the removal actions at the AOI project site.

- **Slips, Trips, Falls** – Good housekeeping will be maintained. Trip hazards will be removed, marked, or guarded or discussed prior to work in the area. Extreme caution will be used when working on or around slippery surfaces. Use of disposable boot covers is discouraged when working on slick surfaces. All necessary precautions will be taken to prevent personnel from injuries caused by slippery surfaces and trip hazards.
- **Overhead Hazards** – Investigation of overhead hazards will be conducted before any work begins. Proper clearances must be maintained at all times. Materials will not be stored underneath and overhead hazard. Equipment will not deviate from established travel ways or work areas where clearances are unknown / insufficient.
- **Buried Utilities** –buried utilities will be identified and marked before any intrusive work begins in the work area. At no time will a buried utility be attempted to be located by powered excavating equipment or tools. US 811 will be contacted. Buried utilities will be located by hand excavation to confirm location and direction of travel.
- **Heavy Equipment** – Daily inspections/pre-operational checks of heavy equipment will be conducted to ensure all safety and operating mechanisms are in place and working properly (i.e.,

backup alarm, fire extinguisher, brakes, controls, etc.). This inspection will be documented and kept on file for review. Ground personnel will communicate with the operator before he/she enters and after he/she leaves that operator's work area. The swing radius of any piece of equipment must be established and at no time are ground personnel to enter that area when the equipment is in operation. Only qualified personnel are allowed to operate equipment.

- **Excavation/Trenching** – If excavation or trenching is required, a competent person (trained in accordance with OSHA and KEMRON requirements) will be present and perform the soil characterization and inspect the sloping, shoring, and/or other appropriate safeguards. KEMRON excavation, trenching, and shoring procedures will be used if required. A plan will be created for excavation exceeding 4 feet.
- **Confined Space** – In the event that there are confined spaces present at the job site, KEMRON- and OSHA-compliant confined space entry procedures covering air monitoring, training, entry permit, rescue, and PPE must be reviewed and followed. At no time will personnel be allowed to enter a confined space until all criteria as stated by the KEMRON confined space entry procedures are met. A plan will be created should a confined space entry be required.
- **Small Quantity Flammable/Combustible Materials** – Small quantities of flammable / combustible materials will be stored in OSHA-approved “safety cans” with appropriate flame arrestors, self-closing lids, and labeled according to their contents per 29 CFR 1910.106(a)(29). Other miscellaneous flammable materials / combustible materials such as aerosol cans, paints, cleaning solvents, etc. will be stored in a National Fire Protection Association-, OSHA-, and Uniform Fire Code-approved “flammable storage cabinet” per 29 CFR 1910. 106(d)(3)(ii)(a).

### 5.3. Explosive Ordnance

This section discusses the military munitions hazards that may be encountered during removal activities at the AOI project site. If an item is suspected to be military munitions, all work will cease and the UXO Safety Officer (UXOSO) will be notified, who in turn will notify the SUXOS. At this point, the SUXOS will take over and implement the requirements presented in the Uniform Federal Policy - Quality Assurance Project Plan and work in accordance with MEC SOPs. MEC may include the following.

- **Discarded military munitions (DMM)** – DMM are defined as ammunition, ammunition components, chemical or biological warfare material, or explosives that have been abandoned without proper disposal, or removed from storage with the intent of conducting disposal. DMM has not undergone arming processes, or experienced the speed/inertia required to align firing mechanisms. DMM has not been fired.
- **Explosive soil** – Explosive soil refers to a mixture of explosives in soil, sand, clay, or other solid media at concentrations such that the mixture itself is explosive. Per DoD 6055.9, V7. E4 explosive soil is considered to be any soil containing more than 2% by weight of primary explosives or more than 10% by weight of secondary explosives, nitrocellulose, or nitroguanidine.
- **UXO** – UXO is defined as military munitions that have been primed, fused, armed, or otherwise prepared for action and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard and remain unexploded either by malfunction, design, or any other cause.

#### 5.3.1. Explosives Handling

All explosive operations will be supervised by the SUXOS and UXOSO and will be coordinated with the USACE on-site Ordnance and Explosives Safety Specialist. Personnel will avoid inhalation and skin contact with smoke, fumes, vapors of explosives, and related hazardous materials. Personnel handling exposed explosives will wear protective gloves to protect against chemical absorption. All explosive operations will follow the procedures outlined in Technical Manual 60A 1-1-31, Explosives Ordnance

Disposal Procedures/General Information on EOD Disposal Procedures and EM 385-1-97, Explosives - Safety and Health Requirements Manual.

### 5.3.2. Explosive Storage, Accountability, and Transportation

Specific explosives will be ordered on an as-needed basis from an explosives vendor. Total control of explosives will be maintained while the explosives are on site. All vehicles transporting explosives will be properly inspected, equipped, and placarded before loading explosives onto the vehicle, and DD Form 626, Motor Vehicle Inspection (Transporting Hazardous Materials) completed.

### 5.3.3. Engineering Controls

If the UXOSO and SUXOS believe that the exclusion zone (EZ) will be difficult to maintain due to terrain, vegetation, etc., engineering controls for demolition will be used as specified in USACE, Huntsville Division publication HNC-ED-CS-S-98-7 "Use of Sand Bags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions." These controls will be applied as necessary to mitigate fragmentation and blast hazards created during demolition operations. A copy of HNC-ED-CS-S-98-7 will be available on site if these engineering controls are to be used.

### 5.3.4. Disposal Shots

Before preparing MEC/MPPEH for detonation, all nonessential personnel will be evacuated from the EZ and remain outside the EZ until all MEC operations are completed. The UXOSO will ensure clearance of nonessential personnel from the EZ through visual surveillance and radio contact with personnel patrolling the EZ perimeter. While preparing MEC/MPPEH for detonation, the UXOSO will ensure that the number of personnel on site is kept to the minimum required to safely accomplish the disposal mission. Authority to initiate demolition operations will rest solely with the SUXOS. The UXOSO will be responsible for ensuring all personnel have been accounted for and that the area is secure prior to authorizing the detonation of explosive charges. The SUXOS will ensure that all required parties are notified of an impending demolition shot.

## 5.4. Chemical Hazards

It is not anticipated that KEMRON personnel will encounter chemical hazards during this field effort.

## 5.5. Physical Hazards

The following physical hazards (including physiological and ergonomic hazards) and mitigation steps may be encountered during the removal actions at the AOI project site.

- **Back Strain** – Proper lifting techniques will be used when handling heavy or bulky loads. Personnel will lift with legs, keeping back straight, and loads close to their bodies. Avoid twisting at the waist during lifting. Personnel will request and receive help from others when loads appear to be too heavy. Mechanical means is the preferred method of lifting and should be used whenever possible.
- **Noise** – Personnel exposed to noise levels above 85 dBA will be required to wear approved hearing protection provided by KEMRON. Work around heavy equipment always entails the possibility of exposure to excessive noise, and as such, hearing protection will be used by personnel when working near such equipment. Excessive noise can be readily identified by workers on site by difficulty in hearing verbal communication at approximately an arm's length away. Employees on site will be briefed on noise hazards and protection as part of the site-

specific training, and this information will be included in the regular tailgate sessions and documented.

- **Exertion** – Upon mobilization, the SUXOS will establish a work / rest regimen and shades as needed conducive to the on-site conditions. Personnel are to adhere to this regimen to alleviate impacts from overexertion or the elements.
- **Repetitive Motion** – Repetitive motion injuries, or more specifically, occupationally related motion disorders, are now common problems. Numerous terms, including cumulative trauma disorder, overuse syndrome, repetitive stress injury, and repetition strain injury, have been used to describe this disorder. In the United States, cumulative trauma disorder (CTD) is the preferred label. Many different symptoms can arise from the accumulation of small injuries or stresses to the body. CTD is not so much a disease as it is a response to excessive demands that we place on our bodies, without adequate time to recover between events. CTD results from a combination of muscle tension, repetitive motion, overuse, and incorrect motion. Examples include forward head posture, incorrect upper extremity support, and overall posture.
- **Cuts** – Personnel will wear, inspect, and maintain designated first aid equipment and supplies. Personnel will ensure cutting devices are properly stored when not in use. In the event of minor bleeding, the following controls will be used.
  - Wear surgical gloves or some other barrier, place sterile gauze / cloth over the bleeding area, and apply direct pressure. Do not remove blood-soaked bandage; add more to the top.
  - If bleeding persists, elevate the area to help reduce blood flow and continue applying direct pressure to the bleeding area.
  - If bleeding continues, apply pressure at a pressure point (brachial or femoral) and continue with direct pressure over the wound.
- **Heat Stress/Cold Stress** – Heat / cold stress disorders and monitoring procedures are detailed in **Section 9** of this SSHP. Generally, for work at the AOI project site, personnel have the potential to be exposed to both climatic extremes of heat and cold. Because of these conditions, operating procedures were developed so that the hazards associated with these temperature extremes on the body can be recognized and avoided. The type of protective clothing (permeable and non-permeable) used on the project is also taken into account when dealing with heat / cold stress conditions. Heat/cold stress SOPs should be reviewed and followed. For heat stress, take the following general precautions.
  - Training in the prevention and recognition of heat stress symptoms
  - Encourage proper physical fitness and diet in employees
  - Maintain fluid intake (prevent dehydration)
  - Modify, as needed, the anticipated work rate
  - Use the buddy system
  - Availability of shaded and cooled rest areas and personal cooling devices.
- For cold stress, take the following general precautions.
  - Training in the prevention and recognition of cold stress symptoms
  - Encourage proper physical fitness and diet in employees
  - Dress in layers to protect exposed skin and provide insulation
  - Use cotton or other absorbent materials to absorb sweat and maintain body warmth when wearing protective ensembles
  - Maintain fluid intake (prevent dehydration)
  - Modify, as needed, the anticipated work rate
  - Use the buddy system
  - Availability of heated rest areas.
- **Fire/Explosion** – Keep a first aid kit and fire extinguisher readily available while in the work area. Alert team personnel of a suspected or potentially dangerous situation. If an alarm sounds,

an unusual or strong nauseating odor is detected, or you see fire or smoke, all personnel are to evacuate the site and notify the SUXOS or UXOSO. Only non-sparking tools will be used in locations where sources of ignition may cause a fire or explosion

- **Weather Hazards** – Weather hazards may occur during working hours on this project. The UXOSO will be responsible for monitoring the weather for hazardous potential by monitoring local radio communication continuously for weather broadcasts or other emergency information. In the event of an impending hazardous weather event, the UXOSO will inform the SUXOS to have all personnel discontinue work and seek shelter or evacuate the site based on the hazard and range control protocols. A plan for severe weather including adequate shelters will be created once on-site with COR input on available shelters and current Bliss protocols.

## 5.6. Ionizing Radiation

Based on a review of the scope of work and available documentation, there are no ionization hazards expected for this project.

## 5.7. Biological Hazards

The following biological hazards and mitigation steps may be encountered during the removal actions at the AOI project site.

### 5.7.1 Ticks

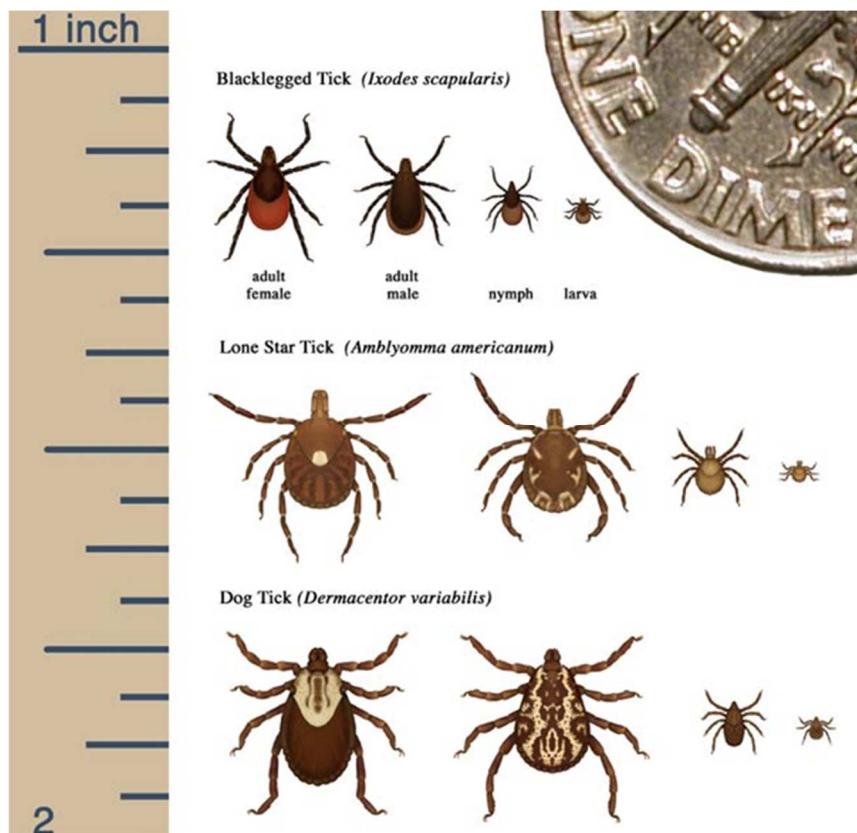
Ticks attach to their host's skin and feed on the host's blood, creating an opportunity for the transmission of disease. If an employee believes a tick has bitten him / her, or if any of the signs and symptoms appears, the UXOSO will direct the employee to visit a physician for examination and possible treatment. When working in areas that might be infested with ticks, personnel should limit the amount of unprotected skin. Light-colored clothing is preferred to make ticks more visible. If heavy concentrations of ticks or other insects are anticipated or encountered, Tyvek coveralls will be used for added protection in addition to treated gaiters for all workers. Personnel should examine their own and their coworkers' clothing frequently for the presence of ticks and should avoid contact with bushes, tall grass, or brush as much as possible when walking in wooded areas.

If a tick is discovered, it should be detached with a fine-tipped tweezers, not with the fingers. The tick should not be twisted as it is detached, and its bloated body should not be squeezed. All parts of the tick should be removed, and the bite area should be washed thoroughly with soap and water and disinfected with alcohol or a similar antiseptic after the removal. The tick should be saved in a small container labeled with the date, the body location of the bite, and the likely source of the tick. Typical tick-transmitted diseases are summarized below.

**Lyme disease** is caused by a bacterium, which may be transmitted through a tick bite. Ticks carrying Lyme disease may be found throughout the United States living in grassy and wooded areas, and feeding on mammals such as mice, shrews, birds, raccoons, opossums, deer, and humans. Not all ticks are infected with the bacterium. When an infected tick bites, the bacterium is passed into the bloodstream of the host, where it multiplies. If detected early, Lyme disease can be treated with antibiotics. The illness typically occurs in the summer months and is characterized by a slowly expanding red rash that develops a few days to a few weeks after the bite of an infected tick. The illness can be accompanied by flu-like symptoms, headache, stiff neck, fever, muscle aches, and/or general malaise. At this stage, treatment by a physician is usually effective; but if left alone, these early symptoms may disappear and problems that are more serious may follow. The most common late symptom of the untreated disease is arthritis; other

problems include meningitis, and neurological and cardiac abnormalities. NOTE: Some people do not get the characteristic rash but progress directly to the later manifestations. Treatment of follow-on symptoms is more difficult than early symptoms and is not always successful.

**Rocky Mountain spotted fever** is another tick-borne disease. Nearly all cases of infection occur in the spring and summer, generally several days after exposure to infected ticks. The onset of illness is abrupt and often accompanied by high fever, headache, chills, and severe weakness. After the fourth day of fever, victims develop a spotted pink rash that usually starts on the hands and feet and gradually extends to most of the body. Early detection and treatment significantly reduces the severity of illness.



### 5.7.2 Stinging Insects

Stinging insects present a serious threat to personnel, and extreme caution must be exercised whenever site and weather conditions increase the risk of encountering stinging insects. Nests and hives for bees, wasps, hornets, and yellow jackets often occur in the ground, in trees and brush, and under the eaves of buildings. Work areas will be checked for obvious nests and hives before work begins.

Insect stings are responsible for more deaths in the United States than the bites and stings of all venomous creatures. This is due to hypersensitivity and/or sensitization to toxins from repeated stings, which can result in anaphylactic reactions. Anaphylactic shock manifests itself very rapidly and is characterized by extreme swelling of the body, eyes, face, mouth, and/or respiratory passages. Individuals who are hypersensitive to such stings and have life-threatening allergies should carry a kit containing antihistamine and epinephrine, and will not work in areas where there is a significant potential for insect stings.

Bites and stings can be painful and may elicit an allergic reaction. To reduce the pain, ice should be placed over the sting and an analgesic corticosteroid lotion applied. If the stinger is embedded in the skin, it should be removed by teasing or scraping rather than pulling. If simple first-aid measures do not alleviate the symptoms, the victim should be taken to the nearest medical center. The offending insect should be killed and taken to the emergency room with the victim if this can be done quickly and without endangering other personnel.



### 5.7.3 Spiders

The biting insects of greatest concern are spiders, especially the black widow and the brown recluse. These spiders are of special concern due to the significant adverse health effects that can be caused by their bites.

The black widow is a coal-black, bulbous spider. The female, whose bite is toxic, has a body length of approximately 1/2 inch and an overall length of about 1-1/2 inches, with a bright red hourglass marking on the underside of the abdomen. The black widow is usually found in dark, moist locations, especially under rocks and rotting logs, and may be found in outdoor toilets. Signs and symptoms may include but are not limited to the following.



- A sharp pinprick of the spider's bite may be felt, although some victims are not even aware of the bite. In no more than 15 minutes, a dull, numbing pain develops in the bitten area.
- A faint red bite mark appears.
- Muscle stiffness and cramps usually affect the abdomen when the bite is in the lower part of the body or legs and affect the shoulders, back, or chest when the bite is on the upper body or arms.
- Headache, chills, fever, heavy sweating, dizziness, nausea, vomiting, and severe abdominal pain are also possible.

The brown recluse is brownish to tan in color, rather flat, 1/2 to 5/8 inches long, with a dark brown "violin" shape on the underside. It is most often found in trees or in dark locations. Signs and symptoms of the brown recluse spider bite are as follows.

- The initial pain may be slight enough to be overlooked.



- A blister at the bite site, along with redness and swelling, appears after several hours.
- Pain, which may remain mild but can become severe, develops within 2 to 8 hours at the bite sight.
- Fever, weakness, vomiting, joint pain, and a rash may occur.
- An ulcer forms within a week; gangrene may develop in some cases.

### **First Aid for Spider Bites**

If possible, catch the spider to confirm its identity, even if the body is crushed save it for identification. Clean the bitten area with soap and water or rubbing alcohol. Do not apply a constricting band because the black widow venom's action is swift; there is little to be gained by trying to slow absorption with a constriction band. To relieve pain, place an ice pack over the bite. Keep the victim quiet and monitor breathing. Seek immediate medical attention, as necessary.

#### **5.7.4 Snakes**

Snakes may be present in the work area. Workers will be advised to avoid reaching into areas where they cannot see and under items resting on the ground, and to avoid walking through brushy areas. If a snake suspected of being poisonous is observed, the UXOSO should be advised, and a warning given to site personnel to avoid walking in the area. If a person is bitten, an identification of the snake should be made if possible, and the person transported immediately to the medical center.

Workers should also be aware that if there is evidence of the presence of rodents, the hazards associated with exposure to hantavirus may be present. Site personnel must be warned to avoid direct contact with dead rodents or dried fecal material, and to avoid exposure to airborne dust where dried rodent fecal matter may be present.

A poisonous snakebite is usually characterized by pain and swelling at the site of the bite and a general skin discoloration. The manifestations of the bite include general weakness, rapid pulse, nausea, vomiting, and shortness of breath. An untreated snakebite can cause severe illness or death. Venomous snakes typically have identifying features including elliptical eyes, sensing pits, enlarged teeth, and a head wider than the neck.

### **Snakebite Prevention**

The best snakebite treatment is to avoid being bitten. The following suggestions will help in this process. Watch where you sit, and where you put your hands and feet. Avoid rock piles, stacks of old boards, and brush in wooded areas. If movement is necessary, use a remote means to initially relocate the material. Before entering a heavily wooded or brush area, look and listen carefully. Never handle "dead" snakes; they may not be completely dead. Do not attempt to capture or kill snakes.

#### **5.7.5 Poison Ivy**

There are no known poisonous plants in the project location.

## **5.8. Hazard Mitigation**

### **5.8.1 Implementing Engineering Controls**

Employee exposures to the site contaminants will be minimized through engineering and administrative controls, and through the use of PPE. Engineering and administrative controls will be used wherever possible, even if PPE will also be used. Exposure control methods will be implemented before any work

with contaminated materials is performed on site, and protective measures will be used at all times during soil disturbance or other activities on the work site with the potential to create exposure. These controls include proactively using water spray, carefully handling soils and other materials, establishing work zones, establishing appropriate housekeeping and decontamination procedures, assigning the appropriate PPE, and providing hygiene facilities for hand and face washing.

The potential exposure routes for any potential contaminants may include inhalation, ingestion, skin and eye contact, and absorption. As a means to reduce exposure at the AOI project site, KEMRON will employ best management practices and engineering controls where possible for soil investigation sampling, if required. The best practices are intended to protect employees from situations where exposure to contaminants above action levels may occur. These practices may include the following.

- **Absorption** – Tyvek suit and/or nitrile gloves to protect skin from contact with soils, sediment, or surface water during sampling
- **Ingestion** – Eating, drinking, chewing gum or tobacco, and smoking are not allowed in the work area.
- **Skin and eye contact** – Safety glasses, Tyvek suits, and/or nitrile gloves will be recommended PPE during sampling activities where contact may occur. Using this PPE prevents any skin and eye contact.
- **Inhalation** – Total dust levels will be monitored during sampling activities and compared to background concentrations in areas of the site where no sampling is occurring. Because of minimal disturbance of soil during sampling activities, inhalation exposure potential is minimal. However, in the event that measureable total dust levels are elevated, dust will be controlled by wetting soil or mechanical ventilation of the breathing zone of the workers.

#### 5.8.2 PPE Upgrades/Downgrades

Personnel will upgrade or downgrade their level of protection at the direction and in coordination with the UXOSO. It is not anticipated that PPE upgrades will be required. If site conditions change and warrant an upgrade, personnel will stop work, evacuate the area, and the UXOSO (in conjunction with the KEMRON Corporate Certified Industrial Hygienist [CCIH]) will direct required PPE upgrades. Reasons to upgrade include:

- Known or suspected presence of dermal hazards;
- Occurrence or likely occurrence of gas, vapor, or dust emission; and
- Change in work task that will increase the exposure or potential exposure to hazardous materials.

Reasons to downgrade include:

- New information indicating that the situation is less hazardous than was originally suspected,
- Change in site conditions that decrease the potential hazard, and
- Change in work task that will reduce exposure to hazardous materials.

#### 5.8.3 Work Stoppage and Evacuation

In the unlikely event that an emergency evacuation is required, notification will be communicated by radio or one long steady blast for 30 seconds or more on a horn, which indicates an evacuation is imminent. KEMRON personnel will immediately assemble at the SUXOS morning safety briefing named “rally point” or alternate designated upwind safe area and identify themselves for accountability purposes. All KEMRON and subcontracted personnel will then proceed as directed by the SUXOS or local authorities.

#### 5.8.4 Prevention of Public Exposure to Site Hazards

Each work area will have general access points to inform personnel and restrict entry through controlled locations. Caretakers, property renters, road maintenance workers, rail workers, and other public members in the project area may be exposed to hazards from both outside and inside the work zone. Guidance for setting up work zone signs, barricades (if necessary), flagging, etc. are found in the U.S. Department of Transportation's Manual on Uniform Traffic Control Devices. The SUXOS will use this guidance or equivalent when establishing barricades and/or signs to warn the public and deter entry.

The KEMRON field team will report unauthorized personnel entering the work area to the SUXOS, who in turn will request assistance from the local project authority in removing the unauthorized personnel from the area. UXO operations will halt until unauthorized personnel have vacated the work area.

#### 5.9. Exposure Monitoring/Air Sampling Program

Air monitoring will not be conducted during this field effort.

## **6. TRAINING**

Training requirements are discussed in section 6 of the APP.

## **7. MEDICAL SURVEILLANCE**

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### **7.1. General Medical Surveillance**

All personnel entering the EZ must have completed appropriate medical monitoring requirements under OSHA 29 CFR 1910.120 (f) and 29 CFR 1926.65 (f). The program will consist of a baseline examination and an annual reexamination. The nature of this project action does not warrant examinations during or upon completion of the project.

Medical examinations will be conducted under the supervision of a licensed physician who is board eligible in occupational medicine by the American Board of Preventive Medicine and certified by the American Board of Independent Medical Examiners. A licensed health care professional will review the exam / test results. The written opinion of the licensed health care professional will be maintained on site and made available to the COR for review. Examination results of employees who terminate employment or who have worked on a hazardous waste project are also maintained at KEMRON's corporate office. All medical records will be maintained in accordance with 29 CFR 1910.1020.

KEMRON and the consulting health care professional will determine the minimum content and frequency of the medical examinations/tests based upon probable site conditions, potential occupational exposures, and required protective equipment. At a minimum, examinations will consist of a medical and occupational history review, blood tests, and urine tests for contaminants of interest, electrocardiogram, pulmonary function tests, chest X-ray, and general physical examination (including hearing and vision).

### **7.2. Fit Testing Requirements (Respiratory Protection)**

Respiratory protection is not anticipated to be used during this project, as the action levels were established conservatively enough to maintain exposures to the site contaminants to well below their respective PELs through engineering and administrative controls.

### **7.3. Subcontractors**

Subcontractors may be used for various segments of the work, and their medical requirements will be relative to their specific task, and subject to respirator use and fit testing. Documentation of medical monitoring is the responsibility of each employer. If there are additional medical monitoring requirements for the site, evidence of compliance for these requirements must also be included.

## **8. HEAT AND COLD STRESS**

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Heat and Cold stress will be managed per APP Sections 11.19 and 11.20, respectively.

## **9. STANDARD OPERATING PROCEDURES, ENGINEERING CONTROLS, AND WORK PRACTICES**

### **9.1. General Site Safety Rules**

The following are standard safe work practices that apply to all site personnel and will be discussed in the safety briefing before beginning work on the site.

- All work will be performed in accordance with requirements and procedures described in the KEMRON Corporate Health and Safety Manual and AHA's for each task.
- Eating, drinking, chewing gum or tobacco, and smoking are prohibited in the work area.
- A "buddy system" will be used during all work activities. Hand signals will be established to maintain communication between work teams and personnel.
- Radio communication will be used to contact the KEMRON safety representative in the event of an emergency.
- During site operations, each worker will consider himself or herself as a safety backup to his or her partner. Off-site personnel will provide emergency assistance if needed.
- Visual contact will be maintained between "buddies" on site when performing hazardous duties.
- No personnel will be admitted to the site without having and wearing the proper safety equipment, all current and required training, and a medical surveillance certification.
- All personnel must comply with established site safety procedures. Any staff member who does not comply with all site safety requirements, as established by the SUXOS, will be immediately dismissed from the site.
- Proper decontamination procedures must be followed before leaving the site.
- Use of cellular telephones is prohibited in the work area.
- Cell phones used as a backup means of communications for team leaders and managers only.
- All employees and visitors must sign in and out of the site.
- All accidents and safety-related incidents will be immediately reported to the designated SUXOS.

### **9.2. Daily Safety Meetings**

Daily meetings will be held at the start of each shift to ensure that all personnel understand site conditions and operating procedures, to ensure that required PEE is available and is being used correctly and to address any worker health and safety concerns. All new amendments to the SSHP, any accidents / incidents, and site/activity hazards will also be reviewed at these meetings. Each worker will sign the safety meeting form during the daily safety meeting. All visitors are to receive a safety briefing and sign the daily safety meeting form. The Daily Safety Meeting form, as well as other project-appropriate forms are provided in **Exhibit A**.

### **9.3. Work Permit Requirements**

There are no anticipated required work permits for this DO. Excavation or related permits that may be likely if MEC is discovered at the site may include an excavation permit if hot spot soil removal is conducted. 811 will be notified in all cases regardless of activity location.

### **9.4. Material Handling Procedures**

Material handling is applicable to this DO. Moving palletized materials (material handling) is anticipated. Personnel driving or operating material handling equipment will do it in accordance with manufacturer's safe practices. Additionally, all chemical materials will be managed in accordance with hazard

communication (HAZCOM) practices, discussed in Section 12.4 of the APP. Spill control will be conducted in accordance with Section 12.3.2 of the APP.

For general lifting, KEMRON personnel will exercise care in lifting and handling heavy or bulky items. No site worker will attempt to lift any item in excess of 40 pounds without assistance or use of a mechanical device. Materials being lifted either mechanically or manually will not be moved or suspended over personnel unless precautions have been taken to protect the personnel from falling objects. Whenever heavy or bulky material is to be moved manually, the size, shape, and weight of the object and the distance and path of movement must be considered to prevent joint and back injuries.

## **9.5. Drum/Container/Tank Handling**

There are no anticipated drum or container handling tasks for this DO.

## **9.6. Comprehensive Activity Hazard Analysis**

The anticipated hazards and risks are discussed in Section 2.0 of this SSHP. An AHA for the following tasks are included in **Exhibit B**.

- Civil Survey/Surface/Sub-Surface Clearance/Analog All Metal Detector Survey
- Removal of Vegetation
- Anomaly Detection and Removal/MEC Disposal
- General (all activities)
- MDAS Certification and Shipping
- Soil Sampling.

## 10. SITE CONTROL MEASURES

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To prevent migration of contamination from personnel and equipment outside the work zones, work areas will be clearly specified and designated before beginning operations. Each work area will be clearly identified using signs or physical barriers. Access to contaminated areas will be controlled through administrative procedures and physical barriers. As work progresses, site controls will be evaluated and revised as needed. Initial zones will be determined using a combination of monitoring data, sampling data, and photographic information provided by USACE. Work zones will be sketched onto a site drawing and posted at the site where they are readily visible to all personnel. Additionally, work zones and demarcation (boundary) lines will be reviewed daily at the safety tailgate meeting. Designated zones include:

- Exclusion zone,
- Contamination reduction zone, and
- Support zone.

A log book of all personnel visiting, entering, or working on the site will be maintained by the SUXOS. No visitor will be allowed in the EZ without showing proof of training and medical certification, per 29 CFR 1910.120(e), (f). Visitors will attend a site orientation given by the UXOSO and sign the SSHP. These preliminary zones will be used unless site conditions require that modifications are necessary.

### 10.1. Support Zone

The SZ will be located in an area that has been determined contamination free or “clean” by supporting analytical data or other objective criteria. This zone will include site break areas, toilet facilities, administrative, and other support functions. Contaminated PPE and/ or equipment are prohibited in this area.

### 10.2. Contamination Reduction Zone

The CRZ is the area between the EZ and SZ designated for equipment and personnel decontamination. The CRZ may also be a staging area for site tools, emergency equipment, containment equipment, additional PPE, sampling equipment, and air bottle changes. All personnel and/or equipment exiting the EZ must enter the CRZ for decontamination before entering the support zone. PPE dress outs must be accomplished in the SZ before entering the CRZ. Contaminated PPE will remain in the CRZ or the EZ until properly disposed of. The location of the CRZ will be determined primarily by the distance needed to prevent a potential release, explosion, or other hazard in the EZ from affecting personnel in the CRZ and SZ.

### 10.3. Exclusion Zone

The EZ is the restricted area where it has been determined by supporting analytical data that contamination exists and poses a potential health hazard. Air monitoring will be conducted on a routine basis to assure adequacy of the perimeter of the EZ. Only authorized personnel necessary to perform the required work, and who meet the requirements of this SSHP and other applicable requirements of 29 CFR 1910.120 and the KEMRON Corporate Health and Safety Manual, are allowed entrance. The EZ will be well delineated by means of barricades, caution tape, fencing, or other highly visible and physical barriers. Air monitoring will be conducted on a routine basis to assure adequacy of the extent of the EZ. Signs, placed at the perimeter of the EZ, will be highly visible and state the hazard (i.e., WARNING CONTAMINATED AREA - KEEP OUT or HAZARDOUS WORK AREA - AUTHORIZED PERSONNEL ONLY).

#### **10.4. Buddy System**

The buddy system will be used for all entries into the exclusion zone. This is a system of organizing employees into work teams in such a manner that each team member can observe the activities of each other. Thus, in case of an emergency, the entire team can account for the location and activity of each team member.

#### **10.5. Visitors**

All visitors will report to the KEMRON command post immediately upon arrival. All visitors entering the CRZ or EZ must provide (if possible) all required training and medical monitoring documentation before arrival on site. The PM must approve the site visit and will coordinate visitor activities with the SUXOS. The UXOSO will establish a safe travel route through the site and away from active operations. All visitors will be escorted while on site.

All visitors will wear:

- Composite-toed shoes or safety-toed shoes;
- Hard hat, as appropriate (when an overhead hazard is present or when working around heavy equipment);
- Safety glasses;
- Tyvek (plain), as necessary; and
- Reflective safety vest.

#### **10.6. Site Security**

Site security duties will include the following.

1. Protect unauthorized personnel from site hazards (physical or chemical exposure).
2. Monitor for smoke or fires in the work area or surroundings
3. Prevent unauthorized personnel from entering the EZ.
4. Prevent vandalism or theft of company equipment.
5. Notify emergency response agencies in case of a fire, explosion, or release after work hours.
6. Maintain site surveillance.
7. Ensure all visitors are approved and have valid purpose for entering the site.
8. Ensure all visitors are escorted.

#### **10.7. Site Maps**

Site maps depicting the work areas, contaminated areas, EZ, CRZ, SZ, and command post will be developed as needed and posted on site before work begins. The map will include designated work areas, escape routes, emergency assembly areas, hazardous and utility layouts. Additionally, a map depicting the hospital driving route (APP Figure 10-1) will also be posted at the site and reviewed with personnel during the site orientation.

#### **10.8. Site Communication**

A communication system will be established on site with two communication nets (networks).

One net will be an internal communication net for on-site personnel and the other will be an external communication net for use between on-site and off-site personnel.

The internal communication net is used to alert all on-site personnel to potential emergencies. Safety information (such as the current time, the amount of time already spent in the EZ, heat stress check, etc.) is also sent out on this net. Common internal communication devices can range from radios to hand/visual signals. To be effective, all communication commands must be prearranged and all signals recognized by all on-site personnel in advance.

The external communication net is used to coordinate outside emergency response, report to management, and maintain contact with essential off-site personnel. This net is essential to provide personnel access to medical and emergency services. Telephones, either landline or cellular, are used to establish this external net.

## **10.9. Site Inspections**

The SUXOS will conduct formal site inspections on a weekly basis and informal inspections on a daily basis. The PM or UXOSO can also conduct site inspections. All formal inspections will be documented and kept in the project file for review by Corporate Environmental, Health, and Safety Program staff members.

## **10.10. Traffic Control**

The PM/SUXOS will ensure that traffic patterns and roadways are designed and operated in a manner that minimizes the potential for vehicle-related accidents. If any local traffic is negatively impacted by project tasks, traffic control measures will be implemented. Key elements that will be considered and reviewed include the following.

- Minimize the potential for operating vehicles in reverse (i.e., backing up).
- Avoid traffic patterns with head-on traffic patterns. Where practical, establish traffic patterns that are circular.
- Minimize intersections when creating traffic plans.
- Avoid areas with overhead obstructions. Where overhead obstructions cannot be avoided, post warning signs and/ or construct warning devices. Warning devices are recommended where traffic includes the use of dump trucks.
- Maintain safe vehicle speeds. Slower traffic speeds should be required at intersections, in curves, and in areas where pedestrian traffic is common.
- Instruct all drivers on proper procedures and speed limits.

To ensure adequate traffic control, all vehicles entering the site will be required to check in with KEMRON personnel. Only authorized vehicles will be allowed beyond the SZ area. Posted speed limits will be enforced by the KEMRON site management team. All vehicles that enter a potentially contaminated area will be decontaminated before leaving the site.

## 11. PERSONAL HYGIENE AND DECONTAMINATION

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The decontamination process is designed to remove contamination acquired in the EZ and to prevent contaminated materials from entering the SZ (clean area). Care must be exercised to ensure that contaminants are removed from personnel and equipment before leaving the site. The decontamination line should extend from the EZ boundary line to the entrance of the SZ. It should be noted that a portion of the site where the decontamination areas are proposed will require excavation, confirmation sampling (contamination level), and backfilling before the decontamination pads are constructed. Dry decontamination is the preferred method for both personnel and equipment decontamination. If dry decontamination is deemed inadequate to remove residual contaminated materials from equipment or personnel, wet decontamination methods will be used.

### 11.1. Personnel Decontamination

A decontamination station will be set up adjacent to the egress route from the active work area (EZ) to the CRZ. This station will be used by employees that come into direct contact with contaminated soil. Dry decontamination is the preferred method and involves removing contaminated layers of personal protective clothing. If necessary, boots will be decontaminated using a wet method “boot wash” station located at the CRZ. The boot wash will be comprised of plastic sheeting on the ground surface and two large wash tubs. The first tub will be filled with water and soap solution and a brush to remove gross contamination. The second tub will be a clean water rinse. Once completed, personnel will exit the zone free of contamination. All liquids will be captured for proper disposal.

An eyewash station that meets the criteria of American National Standards Institute (ANSI) standard Z-358.1-2014 or later will be available on site and located within immediate use of areas with injurious substances, such as fueling areas and the EZs. Once all the gross contamination has been removed, the affected personnel will fully decontaminate and exit through the CRZ to the shower trailer or other type of decontamination facility. All site employees will wash hands and face before leaving the decontamination area. Site personnel will assist with the emergency decontamination only if they are also protected from exposure. The PM/SUXOS will be notified immediately of any emergency.

At a minimum, any employee assisting in decontamination procedures will don Level D PPE or one level less than the personnel exiting the EZ

### 11.2. Emergency Personnel Decontamination

In the event of an emergency medical situation, personnel effected will be decontaminated to the maximum extent possible before providing first aid or exiting the EZ. The primary concern for personnel will be to prevent the loss of life or severe injury to personnel. The UXOSO will be responsible for determining the severity of the emergency or medical situation and will dictate the level of decontamination. Every measure will be taken to decontaminate all personnel exiting the EZ. Therefore, if the emergency situation requires immediate removal of the person from the EZ, the following emergency decontamination steps will be followed.

- Remove all clothing potentially exposed to on-site COCs.
- Wrap or cover the person in plastic or blankets.
- Conduct spot decontamination of visible gross contamination.

In emergency situations where personnel must be transported to a hospital or medical facility, and full decontamination was not conducted, the interior of the vehicle transporting the employee will be covered in plastic to reduce the spread of on-site COCs off site.

### 11.3. Sanitary Facilities and Lighting Requirements

Sanitary facilities will be implemented per APP Section 11.4

#### 11.3.1. Lighting Requirements

Lighting on job sites will meet all applicable standards found in 29 CFR 1910.120 (m). Minimum illumination on job sites will be at 5 foot-candles for work areas and 3 foot-candles for excavations.

**Table 11-1 Lighting Requirements**

Foot-Candles	Area or Operation
5	General site areas
3	Excavation and waste areas, access ways, active storage areas, loading platforms, refueling, and field maintenance areas
5	Indoors – warehouses, corridors, hallways, and exit ways
5	Tunnels, shafts, and general underground work areas. (Exception: minimum of 10 foot-candles is required at tunnel and shaft heading during drilling, mucking, and scaling. Mine Safety and Health Administration-approved cap lights will be acceptable for use in the tunnel heading.)
10	General shops (e.g., mechanical and electrical equipment rooms, active storerooms, barracks or living quarters, locker or dressing rooms, dining areas, and indoor toilets and workrooms.)
30	First-aid stations, infirmaries, and offices.

## 12. EQUIPMENT DECONTAMINATION

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Because of the nature of operations at the AOI project site, some tools and sampling equipment may require decontamination to prevent the spread of contaminants to off-site locations. Equipment coming in contact with contaminated soil will be decontaminated using the following procedure.

- Dry decontamination to physically remove sediment / soil with scrapers and brushes.
- Rinse with pressure washer / steam cleaner.
- 5% Alconox and 95% clean water and final rinse with clean water (if necessary).

Handheld tools or empty drums that come into contact with contaminated soil, debris, or vegetation will be thoroughly decontaminated in an appropriate manner before they are removed from the EZ or used with noncontaminated media, such as clean backfill. An equipment decontamination station will be set up adjacent to the egress route from the active work area (EZ). This station will be used by employees that come into direct contact with contamination. Any equipment that is not properly decontaminated must be disposed of on site or transferred in a controlled manner for decontamination at a later time in a properly constructed decontamination area. Any equipment not immediately decontaminated must be sealed in plastic bags and labeled as such. Items coming in contact with contamination are to be decontaminated at the main staging area (i.e., handheld tools, clearing equipment, etc.) using the following procedure.

- Initial rinse with clean water.
- Scrub equipment with a solution containing 5% Alconox and 95% clean water using plastic-bristled brush.
- Final rinse with clean water.

If gross equipment and vehicle decontamination is required, then wet decontamination methods may be used. This form of decontamination usually involves using high-pressure washers. A wastewater containment area must be constructed because of the nature of the water generated by this procedure. All wastewater generated will be collected for disposal. Specific decontamination solutions will be available to help decontaminate equipment. It is not anticipated that wet decontamination will be required for the project tasks of this DO.

## **13. EMERGENCY RESPONSE, CONTINGENCY PROCEDURES, EQUIPMENT AND FIRST AID**

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Emergency response plans are defined in Section 11.2 of the APP.

## **14. SITE SAFETY AND HEALTH PLAN REVIEW AND DOCUMENTATION**

I have been briefed on and understand this Site Safety and Health Plan. I have been informed of the personnel to contact if I have any questions and know where to report any additional safety and health hazards. I agree to work according to the Site Safety and Health Plan guidelines and understand that failure to do so could result in my removal from the site and/or termination of employment.

**Site Safety and Health Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**Site Safety and Health Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**EXHIBIT A  
Site Safety Forms**

# HAZARD COMMUNICATION (HAZCOM)

## Chemical Labels – NFPA

OSHA Standard 1910.1200

**Every person who works with or around chemicals must understand the Labeling System**

**Hazards** - four basic hazard classifications for chemicals

**Health Hazards** are those that can affect the immediate or long term health of an employee if exposed to a specific chemical. Acute effects of exposure are those that present symptoms when exposure occurs, such as when skin is exposed to an acid. Delayed or long term health effects can also occur from chemical exposure, such as cancer. Health effects for any given chemical will depend on the toxicity, duration of exposure and amount of exposure.

**Fire Hazard** ratings range from *non-flammable* to *highly flammable*. The NFPA ratings are based on the material flashpoint—the temperature at which the chemical vapors will ignite.

**Reactivity** ratings describe the hazards of the material stability - some chemicals will explode or react violently if exposed to heat or shock

**Other Hazards** - special markings are required if the material is radioactive, an oxidizer, acid or base or will react when exposed to other materials.

**Hazard Controls include:**

- Labeling of all chemicals
- Proper chemical storage containers & areas
- Segregation of incompatible chemicals
- Personal Protective Equipment
- Use of chemicals by training and authorized employees
- Use of minimum amount necessary
- Bonding & Grounding of flammable liquid containers

## HAZARDOUS CHEMICAL INVENTORY FORM

**ALL ACCIDENTS/INCIDENTS, INCLUDING NEAR MISSES, MUST BE REPORTED IMMEDIATELY. WRITTEN REPORTS MUST BE FILED NO MORE THAN 24 HOURS FOLLOWING THE ACCIDENT/INCIDENT/NEAR MISS.**

**What is reportable within KEMRON?** Any on the job accident/incident that results in death, injury, illness, property damage, spills/releases, and/or evacuations, including Near Misses.

**What is a Near Miss?** Accidents or incidents which could have resulted in death, injury, illness, property damage, and/or an environmental issue.

**KEMRON Accident/Incident Reporting Instructions**

- If an accident/incident occurs, **immediately** (within the first 15 minutes following the incident, if possible) **notify your Supervisor, Site Manager and the Site Health and Safety Officer (SHSO) or Regional Health and Safety Manager (RHSM).**
- The **Supervisor, Site Manager or Site Health and Safety Officer (SHSO)** must **immediately notify the Corporate Health & Safety Manager and Human Resources Manager.**
- **Prompt reporting is essential. DO NOT WAIT. If you cannot find your supervisor or the Regional Operations Manager is not available, contact the highest ranking management representative available at your location.**
- As soon as possible, but **not more than 24 hours following an accident/incident**, the employee(s) involved in the accident/incident must **complete the Accident/Incident Report** form in its entirety, sign the completed form, and provide it to his/her supervisor. If the employee involved in the accident is not able to file a report, his/her supervisor, working with any witnesses, must file the initial written report.
- **The SHSO must immediately review the form, complete any applicable sections, and sign the Accident/Incident Report form.**
- The completed form must be transmitted to the **Project Manager or Regional Operations Manager** for review and signature **within 24 hours of initial notification of the accident/incident.**
- **Immediately upon receipt, the Regional Operations Manager must review and forward all completed forms to the Corporate Health & Safety Manager and to Corporate Human Resources.**

Accidents/Incidents will be reviewed to determine the underlying cause(s) and any necessary corrective actions.

Email your completed report to:

**Corporate Health and Safety**  
[safety@kemron.com](mailto:safety@kemron.com)

The following table summarizes KEMRON accident/incident reporting requirements:

**TABLE 1. ACCIDENT/INCIDENT REPORTING REQUIREMENTS**

Incident/Event	Notification	Reporting
Near Miss Reporting	Notification to Supervisor and/or Safety Officer within 15 minutes. Notify Corporate Safety and HR	* Accident/Incident Report must be submitted to KEMRON Safety Personnel within 24 hours
Minor Injuries - requiring on-site First Aid only.	Notification to Supervisor and/or Safety Officer within 15 minutes. Notify Corporate Safety and HR	* Accident/Incident Report must be faxed to KEMRON Safety Personnel within 24 hours
Minor Incidents - with little actual or potential for injury, property damage or business interruption losses: <ul style="list-style-type: none"> <li>Property Damage -less than \$2,500.</li> </ul>	Notification to Supervisor and/or Safety Officer within 15 minutes. Notify Corporate Safety and HR	* Vehicle Accident Report and/or General Liability, Property Damage and Loss Report must be submitted to KEMRON Safety Personnel within 24 hours
Serious Injuries - <ul style="list-style-type: none"> <li>Requiring off site Medical care</li> <li>Lost/Restricted Work Day Case</li> <li>Chemical, radiation or biological exposure</li> </ul>	Immediate Notification to Site Manager and/or Safety Officer. Notify Corporate Safety and HR	* Accident/Incident Report must be submitted to KEMRON Safety Personnel within 24 hours
Serious Incidents <ul style="list-style-type: none"> <li>Property Damage or business interruptions losses \$2,500 - \$50,000</li> <li>PSM related incidents</li> <li>Third Party/Public Incidents</li> </ul>	Immediate Notification to Site Manager and/or Safety Officer. Notify Corporate Safety and HR	* Vehicle Accident Report and/or General Liability, Property Damage and Loss Report must be submitted to KEMRON Safety Personnel within 24 hours
Catastrophic Injuries <ul style="list-style-type: none"> <li>Fatalities</li> <li>Incidents involving hospitalization of 3 or more employees</li> </ul>	Immediate Verbal Notification to Site Manager and/or Safety Officer.  Notify Corporate Safety and HR	* Accident/Incident Report must be submitted to KEMRON Safety Personnel within 8 hours
Catastrophic Incidents <ul style="list-style-type: none"> <li>Property Damage –in excess of \$50,000.</li> </ul>	Immediate Notification to Site Manager and/or Safety Officer. Notify Corporate Safety and HR	* Vehicle Accident Report and/or General Liability, Property Damage and Loss Report must be submitted to KEMRON Safety Personnel within 8 hours

**TABLE 2. TELEPHONE CALL DOWN LIST**

<b>TITLE AND NAME</b>	<b>OFFICE PHONE</b>	<b>CELL PHONE</b>
<b>CORPORATE HELATH AND SAFETY DEPARTMENT</b>		
Corporate Health and Safety Leland J. Meadows, CHMM	Office – 404.636.0928 Fax – 404.636.7162	Cell – 404.217.5212
Corporate Health and Safety Marilyn K. Zumbro	Office – 740.373.1420 Fax – 740.376.2536	Cell – 740.350.0541
<b>CORPORATE HUMAN RESOURCES DEPARTMENT</b>		
Corporate Human Resources Danie Penenburgh	Office – 703.893.4106 Fax – 703.893.1741	Cell – 703.963.5683
Corporate Human Resources Terri Maruoka	Office – 703.893.4106 Fax – 703.893.1741	Cell – 703.328.5969
<b>REGIONAL HELATH AND SAFETY MANAGEMENT</b>		
Regional Health and Safety Charleston – Monte Edwards	Office – 304.755.0999	Cell – 304.741.0360
Regional Health and Safety Chicago – Tim Duda	Office – 847.266.1350	Cell – 847.815.5694
Regional Health and Safety Southeast Home – Daniel Robinson, CHMM	Office – 404.636.0928	Cell – 404.319.6630
Regional Health and Safety Marietta – Charlie Martin	Office – 740.373.1024	Cell – 740.236.0787
Regional Health and Safety Southeast Field Services – Richard Hughes	Office – 985.640.9254	Cell – 985.640.9254
Regional and Corporate Health and Safety UXO – Steven Fess, CIH, CSP	Office – 585.392.6621	Cell – 585.202.2360
<b>REGIONAL OPERATIONS MANAGEMENT</b>		
Regional Operations Charleston – Chris Amick	Office – 304.755.0999	Cell – 304.741.0358
Regional Operations Chicago – Lou Ehrhard	Office – 847.2661350	Cell – 847.721.8000
Regional Operations Marietta – Marilyn Zumbro	Office - 740.373.1420	Cell - 740.350.0541
Regional Operations Southeast Home – Jonathan Brinson	Office – 404.636.0928	Cell – 770.344.8864
Regional Operations Southeast Field Services – John Mount	Office – 404.636.0928	Cell – 404.516.3181
Regional Operations UXO – Tracy Bergquist	Office – 404.636.0928	Cell – 770.329.1745

**Accident/Incident/Near Miss Report**

<b>MUST BE COMPLETED WITHIN 24 HOURS OF THE INCIDENT</b>			
<b>GENERAL INFORMATION</b>		<b>CLASSIFICATION (circle all that apply)</b>	
<b>SITE INFORMATION</b>		<b>INJURY/ILLNESS</b>	
Job Name:	<input type="checkbox"/> No Injury	<input type="checkbox"/> Irritation	
Physical Address:	<input type="checkbox"/> Abrasion	<input type="checkbox"/> Laceration	
	<input type="checkbox"/> Bruise	<input type="checkbox"/> Noise	
	<input type="checkbox"/> Chemical Burn	<input type="checkbox"/> Physical Agent	
	<input type="checkbox"/> Cumulative Trauma	<input type="checkbox"/> Puncture	
	<input type="checkbox"/> Dislocation	<input type="checkbox"/> Sprain/Strain	
	<input type="checkbox"/> Foreign Body	<input type="checkbox"/> Thermal Burn	
	<input type="checkbox"/> Fracture	<input type="checkbox"/> Death	
	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Other (explain below)	
Last 4 digits of SS#:	<b>INCIDENT</b>		
Age and Gender:			
Length of Employment:	<input type="checkbox"/> Auto	<input type="checkbox"/> Leak/Spill	
Length of Time at Current Job:	<input type="checkbox"/> Client's Property	<input type="checkbox"/> Near Miss (explain)	
	<input type="checkbox"/> Equipment (type)	<input type="checkbox"/> Subcontractor (explain)	
	<input type="checkbox"/> Fire/Explosion	<input type="checkbox"/> Other (explain)	
	<b>PPE WORN DURING INCIDENT</b>		<b>PART OF BODY AFFECTED</b>
Date and Time of Incident:	<input type="checkbox"/> Dusk Mask	<input type="checkbox"/> Respirator	
Date Investigated:	<input type="checkbox"/> Supplied-Air	<input type="checkbox"/> SCBA	<input type="checkbox"/> Face
Witnessed By:	<input type="checkbox"/> Cartridge Type:		
Project Manager:	<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Eye	
	<input type="checkbox"/> Ear Plugs	<input type="checkbox"/> Face shield	<input type="checkbox"/> Ear
	<input type="checkbox"/> Hard Hat	<input type="checkbox"/> Ear Muffs	<input type="checkbox"/> Head
	<input type="checkbox"/> Googles	<input type="checkbox"/> Welding Hood	<input type="checkbox"/> Neck
	<input type="checkbox"/> Other:		<input type="checkbox"/> Shoulder
<input type="checkbox"/> Unsafe Act	<input type="checkbox"/> Unsafe Equipment	<input type="checkbox"/> Tyvek Suit	<input type="checkbox"/> Arm
<input type="checkbox"/> Unsafe Condition	<input type="checkbox"/> Unsafe Use of Equipment	<input type="checkbox"/> Saranex Suit	<input type="checkbox"/> Elbow
<b>SEVERITY</b>		<b>PROBABILITY</b>	
<input type="checkbox"/> Catastrophic	<input type="checkbox"/> Frequent	<input type="checkbox"/> Nitrile Glove	<input type="checkbox"/> Work Glove
<input type="checkbox"/> Critical	<input type="checkbox"/> Likely	<input type="checkbox"/> Silver Shield	<input type="checkbox"/> Butyl Glove
<input type="checkbox"/> Marginal	<input type="checkbox"/> Occassional	<input type="checkbox"/> Fall Protection	<input type="checkbox"/> Fall Arrest
<input type="checkbox"/> Negligible	<input type="checkbox"/> Seldom	<input type="checkbox"/> Other:	
	<input type="checkbox"/> Unlikely		
<b>PROVIDED TRAINING, SAFETY RULES AND PROCEDURES</b>			
<input type="checkbox"/> Adequate Training	Other (Explain):	<input type="checkbox"/> Snake Chaps	<input type="checkbox"/> Knee Pads
<input type="checkbox"/> Inadequate Training		<input type="checkbox"/> Chemical Boot	<input type="checkbox"/> Steel Shank
<input type="checkbox"/> Lack of Training		<input type="checkbox"/> Composite Toe	<input type="checkbox"/> Steel toe
<input type="checkbox"/> None Established		<input type="checkbox"/> Metatarsal Steel Toe	
<input type="checkbox"/> None Recommended			<input type="checkbox"/> Other:

## Accident/Incident/Near Miss Report

**MUST BE COMPLETED WITHIN 24 HOURS OF THE INCIDENT**

**DESCRIBE THE INCIDENT IN DETAIL**

Attach photographs, drawings, diagrams, property damage, witness statements and any other pertinent information

**FIRST AID/MEDICAL INFORMATION**

Was First Aid Provided?	<input type="checkbox"/> Y <input type="checkbox"/> N	Bloodborne Pathogens Incident?	<input type="checkbox"/> Y <input type="checkbox"/> N
Type of First Aid Applied:	Did Kemron Respond?		
Non-prescription medication:	Employee Exposed to:		
Who Gave the Treatment?	Blood or infectious material?		
Medical Treatment Given? (attach medical report if available)	<input type="checkbox"/> Y <input type="checkbox"/> N	Call to 911?	<input type="checkbox"/> Y <input type="checkbox"/> N
Hospital Name/Address:			
Physician Name:	Work Limitation Given?		
Physician Address:	Any prescriptions prescribed?		
Describe Any Work Limitation:			
Phone:	Return To Work Date:		
<b>IMMEDIATE CORRECTIVE ACTION DESCRIPTION</b>			
Assigned To:	Completion Date:		
<b>ACCIDENT REVIEW BOARD INFORMATION</b>			
Completed By:	Date:		
Approved By:	Date:		

<b>KEMRON Vehicle Information</b>				
Vehicle Year, Make, Model		Vehicle VIN		License Plate No./State
Trailer Year, Make, Model		Trailer VIN		License Plate No./State
<b>KEMRON Driver Information</b>				
Driver's Name and Address, City, State, Zip			Phone Number	
Driver's License No./State	Sex	Date of Birth	Email Address	Work Phone
<b>Date, Time and Place</b>				
Date of Accident	Time  <input type="checkbox"/> AM <input type="checkbox"/> PM	Exact Location of Accident or Loss (Include cross-streets, mile-markers, etc.)		
Was Police Dept. Involved?  <input type="checkbox"/> Yes <input type="checkbox"/> No	Department Name & Contact Name		Police Report or Citations Number	
Witness Name	Witness Address			Phone No.
Additional Comments				
<b>Other Vehicles Involved</b>				
Vehicle 1			Vehicle 2	
Driver Name		Sex	Driver Name	
Injuries <input type="checkbox"/> Yes <input type="checkbox"/> No			Injuries <input type="checkbox"/> Yes <input type="checkbox"/> No	
Driver Address, City, State, Zip			Driver Address, City, State, Zip	
Home Phone	Business Phone		Home Phone	Business Phone
Vehicle Year, Make, Model	License Plate/State		Vehicle Year, Make, Model	License Plate/State
Trailer Year, Make, Model	License Plate/State		Trailer Year, Make, Model	License Plate/State
Vehicle VIN	Trailer VIN		Vehicle VIN	Trailer VIN
Insurance Company	Policy Number		Insurance Company	Policy Number
Insurance Company/Phone No./Agent Name			Insurance Company/Phone No./Agent Name	

# PROJECT HEALTH AND SAFETY PLANNING

## Attachment 8-2 Daily Safety Meeting

Project Name: \_\_\_\_\_ Date: \_\_\_\_\_

Location: \_\_\_\_\_ Presented by: \_\_\_\_\_

### Check the Topics / Information Reviewed:

- Daily work scope reviewed
- Safety is everyone's responsibility
- Site health and safety plan reviewed
- Safety glasses, hard hat, safety boots
- Employee Right-To- Know/MSDS location
- Vehicle safety and driving/road conditions
- Hazard analysis for all tasks or new technology
- Chemical hazards
- First aid, safety, and PPE location
- Sharp object, rebar, and scrap metal hazards
- Latex gloves inner/nitrile gloves outer
- Open pits, excavations, and trenching hazards
- Excavation/trenching inspections/documentation
- Full face respirators with proper cartridges
- Upgrade to Level C at: \_\_\_\_\_
- Work stoppage at: \_\_\_\_\_
- Portable tool safety and awareness
- Slips, trips, and falls
- Strains and sprains
- Anticipated visitors
- Electrical ground fault
- Public safety and fences
- Excavator swing and loading
- Orderly site and housekeeping
- Smoking in designated areas
- Leather gloves for protection
- Effects of the night before? Rain or snow?
- Vibration related injuries
- Noise hazards
- Confined space entry
- Hot work permits
- Overhead utility locations cleared?
- All underground utilities cleared?
- Equipment and machinery familiarization
- Fire extinguisher locations
- Eye wash station locations
- Directions to hospital
- Heat and cold stress
- Decontamination steps
- Review emergency protocol
- Parking and laydown area
- Vehicle backing up hazards
- Accidents can be costly
- No horse play
- Dust and vapor control
- Refueling procedures
- Flying debris hazards
- Poison ivy/oak/sumac
- \_\_\_\_\_
- \_\_\_\_\_

Other Discussion Items / Comments / Follow-up actions:

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PRINT NAME	SIGNATURE

(For safety staff only)	REPORT NO.	EROC CODE	<b>UNITED STATES ARMY CORPS OF ENGINEERS ACCIDENT INVESTIGATION REPORT</b> For use of this form, see Help Menu and USACE Supplement to AR 385-40 The proponent agency is CESO			REQUIREMENT CONTROL SYMBOL: CEEC-S-8 (R2)
1. ACCIDENT CLASSIFICATION						
PERSONNEL CLASSIFICATION		INJURY/ILLNESS/FATAL	PROPERTY DAMAGE		MOTOR VEHICLE INVOLVED	
GOVERNMENT <input type="checkbox"/> CIVILIAN <input type="checkbox"/> MILITARY		<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED	<input type="checkbox"/> OTHER	<input type="checkbox"/>	<input type="checkbox"/>
CONTRACTOR		<input type="checkbox"/>	<input type="checkbox"/> FIRE INVOLVED	<input type="checkbox"/> OTHER	<input type="checkbox"/>	<input type="checkbox"/>
PUBLIC		<input type="checkbox"/> FATAL <input type="checkbox"/> OTHER	X		<input type="checkbox"/>	X
2. PERSONAL DATA						
a. NAME (Last, First MI.)		b. AGE	c. SEX <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE	d. SOCIAL SECURITY NUMBER		e. GRADE
f. JOB SERIES/TITLE		g. DUTY STATUS AT TIME OF ACCIDENT <input type="checkbox"/> ON DUTY <input type="checkbox"/> TDY <input type="checkbox"/> OFF DUTY		h. EMPLOYMENT STATUS AT TIME OF ACCIDENT <input type="checkbox"/> ARMY ACTIVE <input type="checkbox"/> ARMY RESERVE <input type="checkbox"/> VOLUNTEER <input type="checkbox"/> PERMANENT <input type="checkbox"/> FOREIGN NATIONAL <input type="checkbox"/> SEASONAL <input type="checkbox"/> TEMPORARY <input type="checkbox"/> STUDENT <input type="checkbox"/> OTHER (Specify) _____		
3. GENERAL INFORMATION						
a. DATE OF ACCIDENT (YYYYMMDD)	b. TIME OF ACCIDENT (Military Time) hrs.	c. EXACT LOCATION OF ACCIDENT			d. CONTRACTOR'S NAME (1) PRIME  (2) SUBCONTRACTOR	
e. CONTRACT NUMBER  <input type="checkbox"/> CIVIL WORKS <input type="checkbox"/> MILITARY <input type="checkbox"/> OTHER (Specify) _____		f. TYPE OF CONTRACT <input type="checkbox"/> CONSTRUCTION <input type="checkbox"/> SERVICE <input type="checkbox"/> A/E <input type="checkbox"/> DREDGE <input type="checkbox"/> OTHER (Specify) _____		g. HAZARDOUS/TOXIC WASTE ACTIVITY <input type="checkbox"/> SUPERFUND <input type="checkbox"/> DERP <input type="checkbox"/> IRP <input type="checkbox"/> OTHER (Specify) _____		
4. CONSTRUCTION ACTIVITIES ONLY (Fill in line and corresponding code number in box from list - see help menu)						
a. CONSTRUCTION ACTIVITY # _____			b. TYPE OF CONSTRUCTION EQUIPMENT # _____			
5. INJURY/ILLNESS INFORMATION (Include name on line and corresponding code number in box for items e, f & g - see help menu)						
a. SEVERITY OF ILLNESS/INJURY # _____			b. ESTIMATED DAYS LOST	c. ESTIMATED DAYS HOSPITALIZED	d. ESTIMATED DAYS RESTRICTED DUTY	
e. BODY PART AFFECTED PRIMARY # _____ SECONDARY # _____			g. TYPE AND SOURCE OF INJURY/ILLNESS TYPE # _____ SOURCE # _____			
f. NATURE OF ILLNESS / INJURY # _____						
6. PUBLIC FATALITY (Fill in line and correspondence code number in box - see help menu)						
a. ACTIVITY AT TIME OF ACCIDENT # _____			b. PERSONAL FLOTATION DEVICE USED? <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> N/A			

7.

## MOTOR VEHICLE ACCIDENT

a. TYPE OF VEHICLE	b. TYPE OF COLLISION	c. SEAT BELTS	USED	NOT USED	NOT APPLICABLE
<input type="checkbox"/> <input type="checkbox"/> PICKUP/VAN <input type="checkbox"/> <input type="checkbox"/> AUTOMOBILE	<input type="checkbox"/> SIDE SWIPE <input type="checkbox"/> HEAD ON <input type="checkbox"/> REAR END	(1) FRONT SEAT	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> <input type="checkbox"/> TRUCK <input type="checkbox"/> <input type="checkbox"/> OTHER (Specify) _____	<input type="checkbox"/> BROADSIDE <input type="checkbox"/> ROLL OVER <input type="checkbox"/> BACKING		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/> OTHER (Specify) _____		(2) REAR SEAT	<input type="checkbox"/>	<input type="checkbox"/>

8. PROPERTY MATERIAL INVOLVED

a. NAME OF ITEM	b. OWNERSHIP	c. AMOUNT OF DAMAGE
(1) _____	_____	_____
(2) _____	_____	_____
(3) _____	_____	_____

9. VESSEL/FLOATING PLANT ACCIDENT (Fill in line and correspondence code number in box from list - see help menu)

a. ACTIVITY AT TIME OF ACCIDENT _____	(CODE) # <input type="text"/>	a. ACTIVITY AT TIME OF ACCIDENT _____	(CODE) # <input type="text"/>
--	----------------------------------	--	----------------------------------

10. ACCIDENT DESCRIPTION (Use additional paper, if necessary, see attached page 4.)

11. CAUSAL FACTOR(s) (Read instructions before completing)
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a. (Explain YES answers in item 13)	YES <input type="checkbox"/>	NO <input type="checkbox"/>
DESIGN: Was design of facility, workplace or equipment a factor?	<input type="checkbox"/>	<input type="checkbox"/>
INSPECTION/MAINTENANCE: Were inspection & maintenance procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>
PERSON'S PHYSICAL CONDITION: In your opinion, was the physical condition of the person a factor?	<input type="checkbox"/>	<input type="checkbox"/>
OPERATING PROCEDURES: Were operating procedures a factor?	<input type="checkbox"/>	<input type="checkbox"/>
JOB PRACTICES: Were any job safety/health practices not followed when the accident occurred?	<input type="checkbox"/>	<input type="checkbox"/>
HUMAN FACTORS: Did any human factors such as, size or strength of person, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>
ENVIRONMENTAL FACTORS: Did heat, cold, dust, sun, glare, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
CHEMICAL AND PHYSICAL AGENT FACTORS: Did exposure to chemical agents, such as dust, fumes, mists, vapors or physical agents, such as, noise, radiation, etc., contribute to accident?	<input type="checkbox"/>	<input type="checkbox"/>
OFFICE FACTORS: Did office setting such as, lifting office furniture, carrying, stooping, etc., contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
SUPPORT FACTORS: Were inappropriate tools/resources provided to properly perform the activity/task?	<input type="checkbox"/>	<input type="checkbox"/>
PERSONAL PROTECTIVE EQUIPMENT: Did the improper selection, use or maintenance of personal protective equipment contribute to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
DRUGS/ALCOHOL: In your opinion, was drugs or alcohol a factor to the accident?	<input type="checkbox"/>	<input type="checkbox"/>
b. WAS A WRITTEN JOB/ACTIVITY HAZARD ANALYSIS COMPLETED FOR TASK BEING PERFORMED AT TIME OF ACCIDENT? (If yes, attach a copy.)	<input type="checkbox"/>	<input type="checkbox"/>

12. TRAINING

a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK?  <input type="checkbox"/> YES <input type="checkbox"/> NO	b. TYPE OF TRAINING  <input type="checkbox"/> CLASSROOM <input type="checkbox"/> ON JOB	c. DATE OF MOST RECENT FORMAL TRAINING (YYYYMMDD)
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13. FULLY EXPLAIN WHAT ALLOWED OR CAUSED THE ACCIDENT; INCLUDE DIRECT AND INDIRECT CAUSES (See instruction for definition of direct and indirect causes.) (Use additional paper, if necessary)

a. DIRECT CAUSE(s) (Attach additional sheets as needed, See page 4)

b. INDIRECT CAUSE(s) (Attach additional sheets as needed, See page 5)

14.

ACTION(s) TAKEN, ANTICIPATED OR RECOMMENDED TO ELIMINATE CAUSE(s)

DESCRIBE FULLY (Attach additional sheets as necessary, See page 5)

15.

DATES FOR ACTIONS IDENTIFIED IN BLOCK 14.

a. BEGINNING (YYYYMMDD)		b. ANTICIPATED COMPLETION (YYYYMMDD)
c. DATE SIGNED (YYYYMMDD)	d. TITLE OF SUPERVISOR COMPLETING REPORT	e. CORPS SIGNATURE, SUPERVISOR COMPLETING REPORT
c. DATE SIGNED (YYYYMMDD)	d. TITLE OF SUPERVISOR COMPLETING REPORT	e. CONTRACTOR SIGNATURE, SUPERVISOR COMPLETING REPORT
f. ORGANIZATION IDENTIFIER (Division, Branch, Section, etc.)		g. OFFICE SYMBOL

16.

MANAGEMENT REVIEW (1st)

a.  CONCUR b.  NONCONCUR c. COMMENTS

DATE (YYYYMMDD)	TITLE	SIGNATURE
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17.

MANAGEMENT REVIEW (2nd - Chief Operations, Construction, Engineering, etc.,)

a.  CONCUR b.  NONCONCUR c. COMMENTS

DATE (YYYYMMDD)	TITLE	SIGNATURE
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18.

SAFETY AND OCCUPATIONAL HEALTH OFFICE REVIEW

a.  CONCUR b.  NONCONCUR c. ADDITIONAL ACTIONS/COMMENTS

DATE (YYYYMMDD)	TITLE	SIGNATURE
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19.

COMMAND APPROVAL

COMMENTS

DATE (YYYYMMDD)	COMMANDER SIGNATURE
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10.

ACCIDENT DESCRIPTION *(Continuation)*

13a.

DIRECT CAUSE(s) *(Continuation)*

13b.

INDIRECT CAUSE(s) *(Continuation)*

14.

ACTION(s) TAKEN, ANTICIPATED, OR RECOMMENDED TO ELIMINATE CAUSE(s) *(Continuation)*

**GENERAL.** Complete a separate report for each person who was injured, caused, or contributed to the accident (*excluding uninjured personnel and witnesses*). Use of this form for reporting USACE employee first-aid type injuries not submitted to the Office of Workers' Compensation Programs (OWCP) shall be at the discretion of the FOA commander. Please type or print legibly. Appropriate items shall be marked with an "X" in box(es). If additional space is needed, provide the information on a separate sheet and attach to the completed form. Ensure that these instructions are forwarded with the completed report to the designated management reviewers indicated in sections 16 and 17.

## INSTRUCTIONS FOR SECTION 1 - ACCIDENT CLASSIFICATION

(Mark All Boxes That Are Applicable)

- a. GOVERNMENT. Mark "CIVILIAN" box if accident involved government civilian employee; mark "MILITARY" box if accident involved U.S. military personnel.
  - (1) INJURY/ILLNESS/FATALITY - Mark if accident resulted in any government civilian employee injury, illness, or fatality that requires the submission of OWCP Forms CA-1 (*injury*), CA-2 (*illness*) or CA-6 (*fatality*) to OWCP; mark if accident resulted in military personnel lost-time or fatal injury or illness.
  - (2) PROPERTY DAMAGE - Mark the appropriate box if accident resulted in any damage of \$1000 or more to government property (*including motor vehicles*).
  - (3) VEHICLE INVOLVED - Mark if accident involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" or "PROPERTY DAMAGE" are marked.
  - (4) DIVING ACTIVITY - Mark if the accident involved an in-house USACE diving activity.
- b. CONTRACTOR.
  - (1) INJURY/ILLNESS/FATALITY - Mark if accident resulted in any contractor lost-time injury/illness or fatality.
  - (2) PROPERTY DAMAGE - Mark the appropriate box if accident resulted in any damage of \$1000 or more to contractor property (*including motor vehicles*).
  - (3) VEHICLE INVOLVED - Mark if accident involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" or "PROPERTY DAMAGE" are marked.
  - (4) DIVING ACTIVITY - Mark if the accident involved a USACE Contractor diving activity.
- c. PUBLIC.
  - (1) INJURY/ILLNESS/FATALITY - Mark if accident resulted in public fatality or permanent total disability. (*The "OTHER" box will be marked when requested by the FOA to report an unusual non-fatal public accident that could result in claims against the government or as otherwise directed by the FOA Commander*).
  - (2) VOID SPACE - Make no entry.
  - (3) VEHICLE INVOLVED - Mark if accident resulted in a fatality to a member of the public and involved a motor vehicle, regardless of whether "INJURY/ILLNESS/FATALITY" is marked.
  - (4) VOID SPACE - Make no entry.

## INSTRUCTIONS FOR SECTION 2 - PERSONAL DATA

- a. NAME - (MANDATORY FOR GOVERNMENT ACCIDENTS. OPTIONAL AT THE DISCRETION OF THE FOA COMMANDER FOR CONTRACTOR AND PUBLIC ACCIDENTS). Enter last name, first name, middle initial of person involved.
- b. AGE - Enter age.
- c. SEX - Mark appropriate box.
- d. SOCIAL SECURITY NUMBER - (FOR GOVERNMENT PERSONNEL ONLY) Enter the social security number (*or other personal identification number if no social security number issued*).
- e. GRADE - (FOR GOVERNMENT PERSONNEL ONLY) Enter pay grade. Example: 0-6; E-7; WG-8; WS-12; GS-11; etc.
- f. JOB SERIES/TITLE - For government civilian employees enter the pay plan, full series number, and job title, e.g., GS-0810/Civil Engineer. For military personnel enter the primary military occupational specialty (PMOS), e.g., 15A30 or 11G50. For contractor employees enter the job title assigned to the injured person, e.g., carpenter, laborer, surveyor, etc.
- g. DUTY STATUS - Mark the appropriate box.
  - (1) ON DUTY - Person was at duty station during duty hours or person was away from duty station during duty hours but on official business at time of the accident.
  - (2) TDY - Person was on official business, away from the duty station and with travel orders at time of accident. Line-of-duty investigation required.
  - (3) OFF DUTY - Person was not on official business at time of accident.
- h. EMPLOYMENT STATUS - (FOR GOVERNMENT PERSONNEL ONLY) Mark the most appropriate box. If "OTHER" is marked, specify the employment status of the person.

## INSTRUCTION FOR SECTION 3 - GENERAL INFORMATION

- a. DATE OF ACCIDENT - Enter the month, day, and year of accident.
- b. TIME OF ACCIDENT - Enter the local time of accident in military time. Example: 1430 hrs (*not 2:30 p.m.*).
- c. EXACT LOCATION OF ACCIDENT - Enter facts needed to locate the accident scene, (*installation/project name, building number, street, direction and distance from closest landmark, etc.*).
- d. CONTRACTOR NAME
  - (1) PRIME - Enter the exact name (*title of firm*) of the prime contractor.
  - (2) SUBCONTRACTOR - Enter the name of any subcontractor involved in the accident.
- e. CONTRACT NUMBER - Mark the appropriate box to identify if contract is civil works, military, or other: if "OTHER" is marked, specify contract appropriation on line provided. Enter complete contract number of prime contract, e.g., DACW 09-85-C-0100.
- f. TYPE OF CONTRACT - Mark appropriate box. A/E means architect/engineer. If "OTHER" is marked, specify type of contract on line provided.
- g. HAZARDOUS/TOXIC WASTE ACTIVITY (HTW) - Mark the box to identify the HTW activity being performed at the time of the accident. For Superfund, DERP, and Installation Restoration Program (IRP) HTW activities include accidents that occurred during inventory, predesign, design, and construction. For the purpose of accident reporting, DERP Formerly Used DoD Site (FUDS) activities and IRP activities will be treated separately. For Civil Works O&M HTW activities mark the "OTHER" box.

## INSTRUCTIONS FOR SECTION 4 - CONSTRUCTION ACTIVITIES

- a. CONSTRUCTION ACTIVITY - Select the most appropriate construction activity being performed at time of accident from the list below. Enter the activity name and place the corresponding code number identified in the box.

### CONSTRUCTION ACTIVITY LIST

1. MOBILIZATION	13. CARPENTRY
2. SITE PREPARATION	14. ELECTRICAL
3. EXCAVATION/TRENCHING	15. SCAFFOLDING/ACCESS
4. GRADING (EARTHWORK)	16. MECHANICAL
5. PIPING/UTILITIES	17. PAINTING
6. FOUNDATION	18. EQUIPMENT/MAINTENANCE
7. FORMING	19. TUNNELING
8. CONCRETE PLACEMENT	20. WAREHOUSING/STORAGE
9. STEEL ERECTION	21. PAVING
10. ROOFING	22. FENCING
11. FRAMING	23. SIGNING
12. MASONRY	24. LANDSCAPING/IRRIGATION
	25. INSULATION
	26. DEMOLITION

- b. TYPE OF CONSTRUCTION EQUIPMENT - Select the equipment involved in the accident from the list below. Enter the name and place the corresponding code number identified in the box. If equipment is not included below, use code 24, "OTHER", and write in specific type of equipment.

### CONSTRUCTION EQUIPMENT

1. GRADER	12. DUMP TRUCK ( <i>HIGHWAY</i> )
2. DRAGLINE	13. DUMP TRUCK ( <i>OFF HIGHWAY</i> )
3. CRANE ( <i>ON VESSEL/BARGE</i> )	14. TRUCK ( <i>OTHER</i> )
4. CRANE ( <i>TRACKED</i> )	15. FORKLIFT
5. CRANE ( <i>RUBBER TIRE</i> )	16. BACKHOE
6. CRANE ( <i>VEHICLE MOUNTED</i> )	17. FRONT-END LOADER
7. CRANE ( <i>TOWER</i> )	18. PILE DRIVER
8. SHOVEL	19. TRACTOR ( <i>UTILITY</i> )
9. SCRAPER	20. MANLIFT
10. PUMP TRUCK ( <i>CONCRETE</i> )	21. DOZER
11. TRUCK ( <i>CONCRETE/TRANSIT MIXER</i> )	22. DRILL RIG
	23. COMPACTOR/VIBRATORY ROLLER
	24. OTHER

## INSTRUCTIONS FOR SECTION 5 - INJURY/ILLNESS INFORMATION

- a. SEVERITY OF INJURY/ILLNESS - Reference paragraph 2-10 of USACE Supplement 1 to AR 385-40 and enter code and description from list below.

NOI	NO INJURY
FAT	FATALITY
PTL	PERMANENT TOTAL DISABILITY
PPR	PERMANENT PARTIAL DISABILITY
LWD	LOST WORKDAY CASE INVOLVING DAYS AWAY FROM WORK
NLW	RECORDABLE CASE WITHOUT LOST WORKDAYS
RFA	RECORDABLE FIRST AID CASE
NRI	NON-RECORDABLE INJURY

- b. ESTIMATED DAYS LOST - Enter the estimated number of workdays the person will lose from work.

c. ESTIMATED DAYS HOSPITALIZED - Enter the estimated number of workdays the person will be hospitalized.

d. ESTIMATED DAYS RESTRICTED DUTY - Enter the estimated number of workdays the person, as a result of the accident, will not be able to perform all of their regular duties.

e. BODY PART AFFECTED - Select the most appropriate primary and when applicable, secondary body part affected from the list below. Enter body part name on line and place the corresponding code letters identifying that body part in the box.

GENERAL BODY AREA	CODE	BODY PART NAME	HEAD, EXTERNAL	H1	EYE EXTERNAL
ARM/WRIST	AB	ARM AND WRIST		H2	BOTH EYES EXTERNAL
	AS	ARM OR WRIST		H3	EAR EXTERNAL
TRUNK, EXTERNAL MUSCULATURE	B1	SINGLE BREAST		H4	BOTH EARS EXTERNAL
	B2	BOTH BREASTS		HC	CHIN
	B3	SINGLE TESTICLE		HF	FACE
	B4	BOTH TESTICLES		HK	NECK/THROAT
	BA	ABDOMEN		HM	MOUTH/LIPS
	BC	CHEST		HN	NOSE
	BL	LOWER BACK		HS	SCALP
	BP	PENIS		KB	BOTH KNEES
	BS	SIDE		KS	KNEE
	BU	UPPER BACK		LB	BOTH LEGS/HIPS/ ANKLES/
HEAD, INTERNAL	BW	WAIST		LS	SINGLE LEG/HIP/ ANKLE/BUTTOCK
	BZ	TRUNK OTHER			
	C1	SINGLE EAR INTERNAL		MB	BOTH HANDS
	C2	BOTH EARS INTERNAL		MS	SINGLE HAND
	C3	SINGLE EYE INTERNAL		PB	BOTH FEET
	C4	BOTH EYES INTERNAL		PS	SINGLE FOOT
	CB	BRAIN		R1	SINGLE COLLAR BONE
	CC	CRANIAL BONES		R2	BOTH COLLAR BONES
	CD	TEETH		R3	SHOULDER BLADE
	CJ	JAW		R4	BOTH SHOULDER BLADES
ELBOW	CL	THROAT, LARYNX		RB	RIB
	CM	MOUTH		RS	STERNUM (BREAST BONE)
	CN	NOSE		RV	VERTEBRAE (SPINE; DISC)
	CR	THROAT, OTHER		RZ	TRUNK BONES OTHER
	CT	TONGUE			
	CZ	HEAD OTHER INTERNAL			
	EB	BOTH ELBOWS		SB	BOTH SHOULDERS
	ES	SINGLE ELBOW		SS	SINGLE SHOULDER
FINGER	F1	FIRST FINGER		TB	BOTH THUMBS
	F2	BOTH FIRST FINGERS		TS	SINGLE THUMB
	F3	SECOND FINGER			
	F4	BOTH SECOND FINGERS		V1	LUNG, SINGLE
	F5	THIRD FINGER		V2	LUNGS, BOTH
	F6	BOTH THIRD FINGERS		V3	KIDNEY, SINGLE
	F7	FOURTH FINGER		V4	KIDNEYS, BOTH
	F8	BOTH FOURTH FINGERS		VH	HEART
	G1	GREAT TOE		VL	LIVER
	G2	BOTH GREAT TOES		VR	REPRODUCTIVE ORGANS
TOE	G3	TOE OTHER		VS	STOMACH
	G4	TOES OTHER		VV	INTESTINES
				VZ	TRUNK, INTERNAL; OTHER

f. NATURE OF INJURY/ILLNESS - Select the most appropriate nature of injury/illness from the list below. This nature of injury/illness shall correspond to the primary body part selected in 5e, above. Enter the nature of injury/illness name on the line and place the corresponding CODE letters in the box provided.

\* The injury or condition selected below must be caused by a specific incident or event which occurred during a single work day or shift.

GENERAL NATURE CATEGORY	CODE	NATURE OF INJURY NAME		TU	BURN, SCALD, SUNBURN
*TRAUMATIC INJURY OR DISABILITY	TA	AMPUTATION		TI	TRAUMATIC SKIN DISEASES/ CONDITIONS INCLUDING DERMATITIS
	TB	BACK STRAIN		TR	TRAUMATIC RESPIRATORY DISEASE
	TC	CONTUSION; BRUISE; ABRASION		TQ	TRAUMATIC FOOD POISONING
	TD	DISLOCATION		TW	TRAUMATIC TUBERCULOSIS
	TF	FRACTURE		TX	TRAUMATIC VIROLOGICAL/INFECTIVE/
	TH	HERNIA			
GENERAL NATURE CATEGORY	CODE	NATURE OF INJURY NAME	PARASITIC DISEASE	T1	TRAUMATIC CEREBRAL VASCULAR
	TK	CONCUSSION		T2	TRAUMATIC HEARING LOSS
	TL	LACERATION, CUT		T3	TRAUMATIC HEART CONDITION
	TP	PUNCTURE		T4	TRAUMATIC MENTAL DISORDER, STRESS; NERVOUS CONDITION
	TS	STRAIN, MULTIPLE		T8	TRAUMATIC INJURY - OTHER (EXCEPT DISEASE, ILLNESS)

\*\* A nontraumatic physiological harm or loss of capacity produced by systemic infection; continued or repeated stress or strain; exposure to toxins, poisons, fumes, etc.; or other continued and repeated exposures to conditions of the work environment over a long period of time. For practical purposes, an occupational illness/disease or disability is any reported condition which does not meet the definition of traumatic injury or disability as described above.

GENERAL NATURE CATEGORY	CODE	NATURE OF INJURY NAME		
<b>**NON-TRAUMATIC ILLNESS/DISEASE OR DISABILITY</b>				
RESPIRATORY DISEASE	RA	ASBESTOSIS	CONDITION	DD ENDEMIC DISEASE (OTHER THAN CODE TYPES R&S)
	RB	BRONCHITIS		DE EFFECT OF ENVIRONMENTAL
	RE	EMPHYSEMA		
	RP	PNEUMOCONIOSIS		
	RS	SILICOSIS		DH HEARING LOSS
	R9	RESPIRATORY DISEASE, OTHER		DK HEART CONDITION
VIROLOGICAL, INFECTIVE & PARASITIC DISEASES	VB	BRUCELLOSIS	SKIN DISEASE OR CONDITION	DM MENTAL DISORDER, EMOTIONAL STRESS, NERVOUS CONDITION
	VC	COCCIDIOMYCOSIS		DR RADIATION
	VF	FOOD POISONING		DS STRAIN, MULTIPLE
	VH	HEPATITIS		DU ULCER
	VM	MALARIA		DV OTHER VASCULAR CONDITIONS
	VS	STAPHYLOCOCCUS		D9 DISABILITY, OTHER
	VT	TUBERCULOSIS		
	V9	VIROLOGICAL/INFECTIVE/ PARASITIC - OTHER		
	DA	ARTHRITIS, BURSITIS		SB BIOLOGICAL
DISABILITY, OCCUPATIONAL	DB	BACK STRAIN, BACK SPRAIN		SC CHEMICAL
	DC	CEREBRAL VASCULAR CONDITION; STROKE		S9 DERMATITIS, UNCLASSIFIED

g. TYPE AND SOURCE OF INJURY/ILLNESS (CAUSE) - Type and Source Codes are used to describe what caused the incident. The Type Code stands for an ACTION and the Source Code for an OBJECT or SUBSTANCE. Together, they form a brief description of how the incident occurred. Where there are two different sources, code the initiating source of the incident (see example 1, below). Examples:

(1) An employee tripped on carpet and struck his head on a desk. TYPE: 210 (*fell on same level*) SOURCE: 0110 (*walking/working surface*).

NOTE: This example would NOT be coded 120 (*struck against*) and 0140 (*furniture*).

(2) A Park Ranger contracted dermatitis from contact with poison ivy/oak.

TYPE: 510 (*contact*) SOURCE: 0920 (*plant*)

(3) A lock and dam mechanic punctured his finger with a metal sliver while grinding a turbine blade.

TYPE: 410 (*punctured by*) SOURCE: 0830 (*metal*)

(4) An employee was driving a government vehicle when it was struck by another vehicle.

TYPE: 800 (*traveling in*) SOURCE: 0421 (*government-owned vehicle, as driver*)

NOTE: The Type Code 800, "Traveling In" is different from the other type codes in that its function is not to identify factors contributing to the injury or fatality, but rather to collect data on the type of vehicle the employee was operating or traveling in at the time of the incident.

Select the most appropriate TYPE and SOURCE identifier from the list below and enter the name on the line and the corresponding code in the appropriate box.

CODE	TYPE OF INJURY NAME	CODE	SOURCE OF INJURY NAME
0110	STRUCK	0610	EXERTED
0111	STRUCK BY	0620	LIFTED, STRAINED BY (SINGLE ACTION)
0120	STRUCK BY FALLING OBJECT	0710	STRESSED BY (REPEATED ACTION)
0210	STRUCK AGAINST	0720	EXPOSED
0220	FELL, SLIPPED, TRIPPED	0730	INHALED
0230	FELL ON SAME LEVEL	0740	INGESTED
0310	SLIPPED, TRIPPED (NO FALL)	0800	ABSORBED
0320	CAUGHT		EXPOSED TO
0330	CAUGHT ON		TRAVELING IN
0410	CAUGHT IN	0100	
0420	CAUGHT BETWEEN	0110	BUILDING OR WORKING AREA
0430	PUNCTURED, LACERATED		WALKING/WORKING SURFACE (FLOOR, STREET, SIDEWALKS, ETC.)
0440	PUNCTURED BY	0120	STAIRS, STEPS
0510	CUT BY	0130	LADDER
0520	STUNG BY	0140	FURNITURE, FURNISHINGS, OFFICE EQUIPMENT
	BITTEN BY	0150	BOILER, PRESSURE VESSEL
	CONTACTED	0160	EQUIPMENT LAYOUT (ERGONOMIC)
	CONTACTED WITH (INJURED PERSON MOVING)	0170	WINDOWS, DOORS
	CONTACTED BY (OBJECT WAS MOVING)	0180	ELECTRICITY

0200	ENVIRONMENTAL CONDITION	0631	CARBON MONOXIDE
0210	TEMPERATURE EXTREME (INDOOR)	0640	MIST, STEAM, VAPOR, FUME
0220	WEATHER (ICE, RAIN, HEAT, ETC.)	0641	WELDING FUMES
0230	FIRE, FLAME, SMOKE (NOT TOBACCO)	0650	PARTICLES (UNIDENTIFIED)
0240	NOISE	0700	CHEMICAL, PLASTIC, ETC.
0250	RADIATION	0711	DRY CHEMICAL - CORROSIVE
0260	LIGHT	0712	DRY CHEMICAL - TOXIC
0270	VENTILATION	0713	DRY CHEMICAL - EXPLOSIVE
0271	TOBACCO SMOKE	0714	DRY CHEMICAL FLAMMABLE
0280	STRESS (EMOTIONAL)	0721	LIQUID CHEMICAL - CORROSIVE
0290	CONFINED SPACE	0722	LIQUID CHEMICAL - TOXIC
0300	MACHINE OR TOOL	0723	LIQUID CHEMICAL - EXPLOSIVE
0310	HAND TOOL (POWERED; SAW, GRINDER, ETC.)	0724	LIQUID CHEMICAL - FLAMMABLE
0320	HAND TOOL (NONPOWERED)	0730	PLASTIC
0330	MECHANICAL POWER TRANSMISSION APPARATUS	0740	WATER
0340	GUARD, SHIELD (FIXED, MOVEABLE, INTERLOCK)	0750	MEDICINE
0350	VIDEO DISPLAY TERMINAL	0800	INAMINATE OBJECT
0360	PUMP, COMPRESSOR, AIR PRESSURE TOOL	0810	BOX, BARREL, ETC.
0370	HEATING EQUIPMENT	0820	PAPER
0380	WELDING EQUIPMENT	0830	METAL ITEM, MINERAL
0400	VEHICLE	0831	NEEDLE
0411	AS DRIVER OF PRIVATELY OWNED/RENTAL VEHICLE	0840	GLASS
0412	AS PASSENGER OF PRIVATELY OWNED/RENTAL VEHICLE	0850	SCRAP, TRASH
0421	DRIVER OF GOVERNMENT VEHICLE	0860	WOOD
0422	PASSENGER OF GOVERNMENT VEHICLE	0870	FOOD
0430	COMMON CARRIER (AIRLINE, BUS, ETC.)	0880	CLOTHING, APPAREL, SHOES
0440	AIRCRAFT (NOT COMMERCIAL)	0900	ANIMATE OBJECT
0450	BOAT, SHIP, BARGE	0911	DOG
0500	MATERIAL HANDLING EQUIPMENT	0912	OTHER ANIMAL
0510	EARTMOVER (TRACTOR, BACKHOE, ETC.)	0920	PLANT
0520	CONVEYOR (FOR MATERIAL AND EQUIPMENT)	0930	INSECT
0530	ELEVATOR, ESCALATOR, PERSONNEL HOIST	0940	HUMAN (VIOLENCE)
0540	HOIST, SLING CHAIN, JACK	0950	HUMAN (COMMUNICABLE DISEASE)
0550	CRANE	0960	BACTERIA, VIRUS (NOT HUMAN CONTACT)
0551	FORKLIFT	1000	PERSONAL PROTECTIVE EQUIPMENT
0560	HANDTRUCK, DOLLY	1010	PROTECTIVE CLOTHING, SHOES, GLASSES, GOGGLES
0600	DUST, VAPOR, ETC.	1020	RESPIRATOR, MASK
0610	DUST (SILICA, COAL, ETC.)	1021	DIVING EQUIPMENT
0620	FIBERS	1030	SAFETY BELT, HARNESS
0621	ASBESTOS	1040	PARACHUTE
0630	GASES		

#### INSTRUCTIONS FOR SECTION 6 - PUBLIC FATALITY

a. ACTIVITY AT TIME OF ACCIDENT - Select the activity being performed at the time of the accident from the list below. Enter the activity name on the line and the corresponding number in the box. If the activity performed is not identified on the list, select from the most appropriate primary activity area (water related, non-water related or other activity), the code number for "Other", and write in the activity being performed at the time of the accident.

#### WATER RELATED RECREATION

1. Sailing
2. Boating-powered
3. Boating-unpowered
4. Water skiing
5. Fishing from boat
6. Fishing from bank dock or pier
7. Fishing while wading
8. Swimming/supervised area
9. Swimming/designated area
10. Swimming/other area
11. Underwater activities (skin diving, scuba, etc.)
12. Wading
13. Attempted rescue
14. Hunting from boat
15. Other

19. Camping/picnicking unauthorized area
20. Guided tours
21. Hunting
22. Playground equipment
23. Sports/summer (baseball, football, etc.)
24. Sports/winter (skiing, sledding, snowmobiling etc.)
25. Cycling (bicycle, motorcycle, scooter)
26. Gliding
27. Parachuting
28. Other non-water related

#### OTHER ACTIVITIES

29. Unlawful acts (fights, riots, vandalism, etc.)
30. Food preparation/serving
31. Food consumption
32. Housekeeping
33. Sleeping
34. Pedestrian struck by vehicle
35. Pedestrian other acts
36. Suicide
37. "Other" activities

#### NON-WATER RELATED RECREATION

16. Hiking and walking
17. Climbing (general)
18. Camping/picnicking authorized area

b. PERSONAL FLOTATION DEVICE USED - If fatality was water-related was the victim wearing a person flotation device? Mark the appropriate box.

#### INSTRUCTIONS FOR SECTION 7 - MOTOR VEHICLE ACCIDENT

a. TYPE OF VEHICLE - Mark appropriate box for each vehicle involved. If more than one vehicle of the same type is involved, mark both halves of the appropriate box. USACE vehicle(s) involved shall be marked in left half of appropriate box.

b. **TYPE OF COLLISION** - Mark appropriate box.

c. **SEAT BELT** - Mark appropriate box.

#### INSTRUCTIONS FOR SECTION 8 - PROPERTY/MATERIAL INVOLVED

a. **NAME OF ITEM** - Describe all property involved in accident. Property/material involved means material which is damaged or whose use or misuse contributed to the accident. Include the name, type, model; also include the National Stock Number (NSN) whenever applicable.

b. **OWNERSHIP** - Enter ownership for each item listed. (Enter one of the following: USACE; OTHER GOVERNMENT; CONTRACTOR; PRIVATE)

c. **\$ AMOUNT OF DAMAGE** - Enter the total estimated dollar amount of damage (*parts and labor*), if any.

#### INSTRUCTIONS FOR SECTION 9 - VESSEL/FLOATING PLANT ACCIDENT

a. **TYPE OF VESSEL/FLOATING PLANT** - Select the most appropriate vessel/floating plant from list below. Enter name and place corresponding number in box. If item is not listed below, enter item number for "OTHER" and write in specific type of vessel floating plant.

##### VESSEL/FLOATING PLANTS

1. ROW BOAT
2. SAIL BOAT
3. MOTOR BOAT
4. BARGE
5. DREDGE/HOPPER
6. DREDGE/SIDE CASTING
7. DREDGE/DIPPER
8. DREDGE/CLAMSHELL, BUCKET
9. DREDGE/PIPE LINE
10. DREDGE/DUST PAN
11. TUG BOAT
12. OTHER

b. **COLLISION/MISHAP** - Select from the list below the object(s) that contributed to the accident or were damaged in the accident.

##### COLLISION/MISHAP

1. COLLISION W/OTHER VESSEL
2. UPPER GUIDE WALL
3. UPPER LOCK GATES
4. LOCK WALL
5. LOWER LOCK GATES
6. LOWER GUIDE WALL
7. HAULAGE UNIT
8. BREAKING TOW
9. TOW BREAKING UP
10. SWEEPED DOWN ON DAM
11. BUOY/DOLPHIN/CELL
12. WHARF OR DOCK
13. OTHER

#### INSTRUCTIONS FOR SECTION 10 - ACCIDENT DESCRIPTION

**DESCRIBE ACCIDENT** - Fully describe the accident. Give the sequence of events that describe what happened leading up to and including the accident. Fully identify personnel and equipment involved and their role(s) in the accident. Ensure that relationships between personnel and equipment are clearly specified. Continue on blank sheets if necessary and attach to this report.

#### INSTRUCTIONS FOR SECTION 11 - CAUSAL FACTORS

a. Review thoroughly. Answer each question by marking the appropriate block. If any answer is yes, explain in item 13 below. Consider, as a minimum, the following:

- (1) **DESIGN** - Did inadequacies associated with the building or work site play a role? Would an improved design or layout of the equipment or facilities reduce the likelihood of similar accidents? Were the tools or other equipment designed and intended for the task at hand?
- (2) **INSPECTION/MAINTENANCE** - Did inadequately or improperly maintained equipment, tools, workplace, etc. create or worsen any hazards that contributed to the accident? Would better equipment, facility, work site or work activity inspections have helped avoid the accident?
- (3) **PERSON'S PHYSICAL CONDITION** - Do you feel that the accident would probably not have occurred if the employee was in "good" physical condition? If the person involved in the accident had been in better physical condition, would the accident have been less severe or avoided altogether? Was over exertion a factor?
- (4) **OPERATING PROCEDURES** - Did a lack of or inadequacy within established operating procedures contribute to the accident? Did any aspect of the procedures introduce any hazard to, or increase the risk associated with the work process? Would establishment or improvement of operating procedures reduce the likelihood of similar accidents?
- (5) **JOB PRACTICES** - Were any of the provisions of the Safety and Health Requirements Manual (*EM 385-1-1*) violated? Was the task being accomplished in a manner which was not in compliance with an established job hazard analysis or activity hazard analysis? Did any established job practice (*including EM 385-1-1*) fail to adequately address the task or work process? Would better job practices improve the safety of the task?
- (6) **HUMAN FACTORS** - Was the person under undue stress (*either internal or external to the job*)? Did the task tend toward overloading the capabilities of the person; i.e., did the job require tracking and reacting to many external inputs such as displays, alarms, or signals? Did the arrangement of the workplace tend to interfere with efficient task performance? Did the task require reach, strength, endurance, agility, etc., at or beyond the capabilities of the employee? Was the work environment ill-adapted to the person? Did the person need more training, experience, or practice in doing the task? Was the person inadequately rested to perform safely?
- (7) **ENVIRONMENTAL FACTORS** - Did any factors such as moisture, humidity, rain, snow, sleet, hail, ice, fog, cold, heat, sun, temperature changes, wind, tides, floods, currents, dust, mud, glare, pressure changes, lightning, etc., play a part in the accident?

(8) CHEMICAL AND PHYSICAL AGENT FACTORS - Did exposure to chemical agents (*either single shift exposure or long-term exposure*) such as dusts, fibers (*asbestos, etc.*), silica, gases (*carbon monoxide, chlorine, etc.*), mists, steam, vapors, fumes, smoke, other particulates, liquid or dry chemicals that are corrosive, toxic, explosive or flammable, by products of combustion or physical agents such as noise, ionizing radiation, non-ionizing radiation (*UV radiation created during welding, etc.*) contribute to the accident/incident?

(9) OFFICE FACTORS - Did the fact that the accident occurred in an office setting or to an office worker have a bearing on its cause? For example, office workers tend to have less experience and training in performing tasks such as lifting office furniture. Did physical hazards within the office environment contribute to the hazard?

(10) SUPPORT FACTORS - Was the person using an improper tool for the job? Was inadequate time available or utilized to safely accomplish the task? Were less than adequate personnel resources (*in terms of employee skills, number of workers, and adequate supervision*) available to get the job done properly? Was funding available, utilized, and adequate to provide proper tools, equipment, personnel, site preparation, etc.?

(11) PERSONAL PROTECTIVE EQUIPMENT - Did the person fail to use appropriate personal protective equipment (*gloves, eye protection, hard-toed shoes, respirator, etc.*) for the task or environment? Did protective equipment provided or worn fail to provide adequate protection from the hazard(s)? Did lack of or inadequate maintenance of protective gear contribute to the accident?

(12) DRUGS/ALCOHOL - Is there any reason to believe the person's mental or physical capabilities, judgment, etc., were impaired or altered by the use of drugs or alcohol? Consider the effects of prescription medicine and over the counter medications as well as illicit drug use. Consider the effect of drug or alcohol induced "hangovers".

b. WRITTEN JOB/ACTIVITY HAZARD ANALYSIS - Was a written Job/Activity Hazard Analysis completed for the task being performed at the time of the accident? Mark the appropriate box. If one was performed, attach a copy of the analysis to the report.

#### INSTRUCTIONS FOR SECTION 12 - TRAINING

a. WAS PERSON TRAINED TO PERFORM ACTIVITY/TASK? - For the purpose of this section "trained" means the person has been provided the necessary information (*either formal and/or on-the-job (OJT) training*) to competently perform the activity/task in a safe and healthful manner.

b. TYPE OF TRAINING - Mark the appropriate box that best indicates the type of training; (*classroom or on-the-job*) that the injured person received, before the accident happened.

c. DATE OF MOST RECENT TRAINING - Enter YYYYMMDD of the last formal training completed that covered the activity task being performed at the time of the accident.

#### INSTRUCTIONS FOR SECTION 13 - CAUSES

a. DIRECT CAUSES - The direct cause is that single factor, which most directly lead to the accident. See examples below.

b. INDIRECT CAUSES - Indirect causes are those factors which contributed to but did not directly initiate the occurrence of the accident.

##### Examples for section 13:

a. Employee was dismantling scaffold and fell 12 feet from unguarded opening.

Direct cause: failure to provide fall protection at elevation. Indirect causes: failure to enforce USACE safety requirements; improper training/motivation of employee (*possibility that employee was not knowledgeable of USACE fall protection requirements or was lax in his attitude towards safety*); failure to ensure provision of positive fall protection whenever elevated; failure to address fall protection during scaffold dismantling in phase hazard analysis.

b. Private citizen had stopped his vehicle at intersection for red light when vehicle was struck in rear by USACE vehicle. (*Note: USACE vehicle was in proper/safe working condition*).

Direct cause: failure of USACE driver to maintain control of and stop USACE vehicle within safe distance.

Indirect cause: failure of employee to pay attention to driving (*defensive driving*).

#### INSTRUCTIONS FOR SECTION 14 - ACTION TO ELIMINATE CAUSE(s)

**DESCRIPTION** - Fully describe all the actions taken, anticipated, and recommended to eliminate the cause(s) and prevent reoccurrence of similar accidents/illnesses. Continue on blank sheets of paper if necessary to fully explain and attach to the completed report form.

#### INSTRUCTIONS FOR SECTION 15 - DATES FOR ACTION

a. **BEGIN DATE** - Enter the date YYYYMMDD when the corrective action(s) identified in section 14 will begin.

b. **COMPLETE DATE** - Enter the date YYYYMMDD when the corrective action(s) identified in section 14 will be completed.

c. **DATE SIGNED** - Enter YYYYMMDD that the report was signed by the responsible supervisor.

d.e. **TITLE AND SIGNATURE** - Enter the title and signature of supervisor completing the accident report. For a GOVERNMENT employee accident/illness the immediate supervisor will complete and sign the report. For PUBLIC accidents the USACE Project Manager/Area Engineer responsible for the USACE property where the accident happened shall complete and sign the report. For CONTRACTOR accidents the Contractor's project manager shall complete and sign the report and provide to the USACE supervisor responsible for oversight of that contractor activity. This USACE supervisor shall also sign the report. Upon entering the information required in 15c., 15d., 15e., 15f. and 15g. below, the responsible USACE supervisor shall forward the report for management review as indicated in section 16.

**f. ORGANIZATION NAME** - For GOVERNMENT employee accidents enter the USACE organization name (*Division, Branch, Section, etc.*) of the injured employee. For PUBLIC accidents enter the USACE organization name for the person identified in block 15d. For CONTRACTOR accidents enter the USACE organization name for the USACE office responsible for providing contract administration oversight.

**g. OFFICE SYMBOL** - Enter the latest complete USACE Office Symbol for the USACE organization identified in block 15f.

**INSTRUCTIONS FOR SECTION 16 - MANAGEMENT REVIEW (1st)**

**1ST REVIEW** - Each USACE FOA shall determine who will provide 1st management review. The responsible USACE supervisor in section 15d. shall forward the completed report to the USACE office designated as the 1st Reviewer by the FOA. Upon receipt, the Chief of the Office shall review the completed report, mark the appropriate box, provide substantive comments, sign, date, and forward to the FOA Staff Chief (*2nd review*) for review and comment.

**INSTRUCTIONS FOR SECTION 17 - MANAGEMENT REVIEW (2nd)**

**2ND REVIEW** - The FOA Staff Chief (*i.e., FOA Chief of Construction, Operations, Engineering, Planning, etc.*) shall mark the appropriate box, review the completed report, provide substantive comments, sign, date, and return to the FOA Safety and Occupational Health Office.

**INSTRUCTIONS FOR SECTION 18 - SAFETY AND OCCUPATIONAL HEALTH REVIEW**

**3RD REVIEW** - The FOA Safety and Occupational Health Office shall review the completed report, mark the appropriate box, ensure that any inadequacies, discrepancies, etc. are rectified by the responsible supervisor and management reviewers, provide substantive comments, sign, date and forward to the FOA Commander for review, comment, and signature.

**INSTRUCTION FOR SECTION 19 - COMMAND APPROVAL**

**4TH REVIEW** - The FOA Commander shall (*to include the person designated Acting Commander in his absence*) review the completed report, comment if required, sign, date, and forward the report to the FOA Safety and Occupational Health Office. Signature authority shall not be delegated.

**Attachment 22-1**

<b>Heat Stress Checklist</b>			
Work Location		Date	
Description of Work			
Names of All Persons Performing Task			
<b>Type of Work to be Performed (Check One)</b>			
<input type="checkbox"/> Light <input type="checkbox"/> Moderate <input type="checkbox"/> Heavy			
<b>Type of Clothing to be Worn (Check One)</b>			
<input type="checkbox"/> Regular work wear <input type="checkbox"/> Regular Anti C's/Coveralls <input type="checkbox"/> Impermeable clothing (paper or plastic) <input type="checkbox"/> Other (explain) : _____			
<b>Respiratory Protection to be Worn (Check One)</b>			
<input type="checkbox"/> SCBA <input type="checkbox"/> Respirator <input type="checkbox"/> Other (explain) : _____			
<b>Work Area Monitoring</b>			
WBGT Temperature		_____ °F	Date/Time Taken _____ / _____
<b>Work Requirements</b>			
<input type="checkbox"/> Administrative Category (Circle One) I      II      III      IV			
<input type="checkbox"/> Recommended Stay Time: _____			
<input type="checkbox"/> Recommended Rest Time: _____			
<input type="checkbox"/> Personal cooling garment <input type="checkbox"/> Shielding <input type="checkbox"/> Fans/blowers <input type="checkbox"/> Fluid/electrolyte available <input type="checkbox"/> Cool area identified <input type="checkbox"/> Two-men required <input type="checkbox"/> All personnel trained within the past year			

**Approval to Commence Work**

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Job Supervisor's Signature

---

General Supervisor's Signature

**Attachment 19-1**  
**Vehicle Safety Checklist and Inspection**

<b>PROJECT/TASK:</b>		<b>DEPARTMENT:</b>						
<b>DATE:</b>	<b>TIME:</b>	<b>S M T W T F S</b> ( Circle Day )						
<b>INCOMING:</b> <input type="checkbox"/>		<b>OUTGOING:</b> <input type="checkbox"/>		<b>DAILY:</b> <input type="checkbox"/>				
<b>Make/Description:</b>  <b>Hours:</b>			<b>Model:</b>	<b>I.D.</b>				
			<b>Mileage:</b>					
<b>Last service performed:</b> (Date, hours/mileage)								
<b>Inspected By:</b> ( Print Name and Signature )								
<b>EQUIPMENT</b>	<b>Acceptable</b>	<b>Not Acceptable</b>	<b>N/A</b>	<b>Comments and Action Taken</b>				
Operation/Owner's Manual								
Brakes								
Reverse Signal Alarm								
Horn/Air Horn								
Tires								
Steering								
Seat Belts								
Operating Controls								
Fire Extinguisher / Triangles								
All Lights								
Defroster								
Mirrors								
Instruments								
Coupling Devices								
Windshield Wipers								
Windshield/Window Glass								
Mud Flaps/Rock Guards								
Exhaust Systems								
Hitches and Safety Cables								
Hydraulic Lines/Air Lines								
Cleanliness								
Engine Oil Level								
Engine Coolant								
Cab Card								
Insurance Card								
<b>Comments:</b>								

**EXHIBIT B  
Activity Hazard Analyses**

# ACTIVITY HAZARDS ANALYSIS

Date: 9/14/2017

Project: RI/FS - Ft. Bliss N. Castner AOI

Civil Survey/Surface/Sub-Surface Clearance/Analog All Metals Detector  
Activity: Survey +

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By:  CHMM

Overall Risk Assessment Code (RAC)  
(Use highest code)

M

## Risk Assessment Code Matrix

Severity	E = Extremely High Risk H = High Risk M = Moderate Risk L = Low Risk	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
Catastrophic	E	E	H	H	M	
Critical	E	H	H	M	L	
Marginal	H	M	M	L	L	
Negligible	M	L	L	L	L	

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Identification of site features/GPS surveying	Strains and sprains	• Stretch throughout the day to minimize back and neck pain, strains and sprains.	L
X	Conduct Surface Clearance for MEC	Identify Explosive components not safe to remove	Review all information on the item(s). Review 60 series publication if there is one for the item(s).	M

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Hand Tools	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.

Involved Personnel:

Qualified Personnel: SUXOS

# ACTIVITY HAZARDS ANALYSIS

Acceptance Authority (digital signature):

A large, empty red rectangular box with a thin border, intended for a digital signature or acceptance authority.

# ACTIVITY HAZARDS ANALYSIS

Date: 9/14/2017

Project: RI/FS Ft. Bliss N. Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

M

Activity: Removal of Vegetation

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By  CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Removal of vegetation	Strains and sprains	<ul style="list-style-type: none"> <li>Stretch throughout the day to minimize back and neck pain, strains and sprains.</li> <li>Keep a neutral posture and lift with your legs.</li> <li>Ask for help and offer help when needed.</li> <li>Use trucks, wheel barrows and hand carts to lighten the load.</li> </ul>	L
X	Use of hand tools to remove vegetation such as clippers	Cuts on hands	Wear gloves. Given the desert location of the work to be performed, vegetation is expected to be sparse, and thus large amounts of vegetation removal is not expected to be performed. If vegetation can be worked around, no removal of vegetation will be performed.	L
X		Encountering surface MEC	Review all information on the item(s). Review 60 series publication if there is one for the item(s).	M
X				

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Hand Tools	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.

# ACTIVITY HAZARDS ANALYSIS

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature)



# ACTIVITY HAZARDS ANALYSIS

Date: 9/14/2017

Project: RI/FS - Ft. Bliss N. Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

M

Activity: Anomaly Detection and Removal/MEC Disposal

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By:  CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

## Risk Assessment Code Matrix

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Inspect Surface scrap for MEC	Identify Explosive components not safe to remove	Review all information on the item(s). Review 60 series publication if there is one for the item(s).	M
X	Digging	Hitting subsurface MEC	Use proper location and excavation procedures; use equipment properly; maintain appropriate separation distances.	M
X	Using heavy machinery	Struck By	Equipment operator must know where coworkers are at all times; workers on the ground must maintain a safe distance from the backhoe; use the buddy/spotter system with appropriate hand arm signals; wear hard hat and high-visual vests.	M
X		Loss of hearing	Wear ear protection.	M
X		Hitting subsurface MEC	Mechanically excavate to the side of the anomaly to the depth of 12 inches from the anomaly. Hand excavate when within 12 inches of the anomaly.	M
X	Conduct Demolition Operations	Unintentional Detonation	Conduct demolition operations IAW approved SOP's forelectric or NONEL initiation."	M

# ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Conduct Demolition Operations (cont.)	Intentional Detonation	Observe appropriate MSDs; implement engineering controls as applicable; notify appropriate installation personnel of demolition operations; post road guards if MSD encroaches on public/private roads.	M
X		Fire	Observe fire prevention SOP; provide ABC (or equivalent) fire extinguishers for all work; conduct postdemolition fire watch; when appropriate based on site conditions, have local firefighting professionals on standby to react to unintentional fires.	M

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Hand Tools	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.
X	Heavy Equipment	Worker to have knowledge of proper use.	Inspect all equipment for safe working order upon receipt and daily thereafter. All equipment shall have rollover protection, direction warning systems, and seat belts. Review the Heavy Equipment and Drilling Equipment Checklist.

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature):



# ACTIVITY HAZARDS ANALYSIS

Date: 9/5/2017

Project: RI/FS - Ft. Bliss N. Castner Aoi

Overall Risk Assessment Code (RAC)  
(Use highest code)

L

Activity: General (all activities)

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By  CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Vehicle Operation and working around motor vehicles	Struck by Crushing injuries Caught between Danger to passing motor vehicles Accidents caused by other drivers	Provide approved traffic control program to eliminate traffic hazards.  Always wear reflective vests when exposed to vehicular traffic. Be alert to material and equipment loading/unloading hazards and moving equipment. Use a spotter to aid in unloading and to watch for overhead and backing-up hazards, and pedestrian/vehicular traffic. Vehicles will obey all speed limits and will be operated in a non-reckless manner. No vehicle will be overloaded or loaded in such a way as to obscure the view of the driver.	L
X	General Site Hazards	Physical Exertion/Lifting Hazards (Strains, Sprains)	Use proper lifting techniques and body mechanics. Avoid attempts to move immovable objects. Use mechanical equipment where possible. Get plenty of rest. Personnel shall use proper lifting techniques such as keeping back straight, using legs to lift, limiting twisting, using mechanical means where possible, and getting help when handling bulky items.  Wear proper clothing and be aware of area	L
X		Fire Hazards	Daily safety meeting will be held to document the potential for fire emergencies. Properly inspected firefighting equipment will be staged nearby in the event of an emergency.  GSI-K qualified personnel have been trained to respond to incipient through annual and hands-on training.	L
X		Slips, Trips, and Falls	Keep work areas clear of debris. Slip, trip, and fall hazards should be marked, removed, or protected. Housekeeping procedures will be monitored to reduce hazards. Work will not be permitted on slick surfaces.	L

# ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X		Puncture / Laceration	Proper hand protection will be worn to minimize the possibility of injuries due to cuts and abrasions. Potential pinch points will be identified and marked to avoid injury. Qualified personnel will assist and administer First-Aid.	L
X		High Noise	Use of hearing protection is mandatory around the drilling rig and will be worn when employees are exposed to high noise levels (greater than 85 dBA over an 8-hour work day).	L
X		Hand and Power Tools	Use all tools in the manner designed. Do not use tools with damaged or damaged cords. Wear gloves where required.	L
X		Electrical	Only licensed personnel shall conduct electrical work. Only personnel directly involved in the operation will be allowed in the area. Fire suppression and control equipment will be staged nearby in the event of an emergency.	L
X		Severe Weather (exposure, lightning strike, high winds)	Weather forecasts to be monitored for predicted inclement weather. All personnel will be notified by the SSHO when the potential of lightning and/or claps of thunder, precipitation or inclement weather. Work to be stopped in event of high winds, lightning or thunder identified and will be accessed 30 minutes following the last strike and/or clap of thunder.	L
X		Heat/Cold Stress	Personnel shall be trained by the SSHO on the signs and symptoms of heat/cold stress. An effective work/rest schedule will be implemented to regulate weather exposures. Fluids will be provided. Employees will be encouraged to refrain from alcohol use after work hours.	L
X		Poisonous Animals/Insects/Vegetation	Rodents, snakes, stray animals, stinging insects, and poison ivy/sumac/oak are all environmental hazards that may be encountered during daily site operations. Site investigations to identify these hazards before work related activities begin are essential. Site specific procedures shall be developed should there be a reasonable potential for these hazards to exist, and implemented if encountered.  Snakes may be present. All site employees will don snake chaps or knee-high boots in conjunction with trousers and long-sleeved shirts.	L
X	Housekeeping	Lacerations, punctures, etc.	Look out for sharp edges on equipment and in work area. Pick-up debris, trash, equipment daily and store in designated areas. Qualified personnel will assist and administer First-Aid.	L
X	Planning	General	A thorough site assessment has been conducted to review data and recognize potential hazards; there are no contaminants listed above the Occupational Exposure Level and therefore an SSHP is not required.  Review required PPE- Hard hat, safety glasses, proper gloves, long sleeve shirt, safety boots, high visibility vest, and any other task specific PPE.  Inspect all equipment and tools prior to use. Any faulty equipment or tools shall be tagged and taken out of service immediately.	L

# ACTIVITY HAZARDS ANALYSIS

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Identify Work Area.	Slip, trips & falls, machinery hazards	Inspect area for hazards that could cause slip, trip, fall hazards and remove material if hazard exists.  Ensure area is clean and orderly.	L
X	Traveling by foot	Uneven terrain	- Know the daily route(s) you will be taking during your fieldwork. Carry a reference field-route or - location map, if necessary. - Always treat hilly and mountainous topography with caution. Carefully pick the spots where you intend to step. Be careful of dislodging rocks onto other fieldworkers below or following you. - Walk carefully in uneven terrain, especially when the ground surface may be obscured by vegetation or during twilight or at night. - Dress appropriately for field area terrain: as necessary wear a hat, long pants, boots or sturdy shoes, and eye protection (i.e., sunglasses). - Be particularly alert for falling rocks, rock slides, or rock falls when working in proximity to cliff faces or steep rock outcrops. Wear a safety hat when working in areas where falling rocks are common.	L
X				L

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Vehicles and Trailers (as necessary)	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Initial vehicle inspection before use on Project. Weekly vehicle inspections will be conducted throughout project duration. Review Vehicle Checklist  Prior to operating, a visual & manual inspection of the equipment shall be conducted. Check for anything that might need to be repaired (broken, missing, or damaged parts) Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.
X	Hand Tools	Worker to have knowledge of proper use. Only trained personnel shall operate equipment.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	Fire Extinguisher	Worker to have knowledge of proper use. Only trained personnel shall operate equipment.	Initial inspection before use on Project. Monthly extinguisher inspections will be conducted throughout project duration
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.
X	First Aid/CPR	Certified Training Program with two qualified personnel	

# ACTIVITY HAZARDS ANALYSIS

Involved Personnel:

Qualified Personnel: SUXOS

First Aid/CPR Personnel: Ralph Brooks, Dan Burnett

Acceptance Authority (digital signature):



# ACTIVITY HAZARDS ANALYSIS

Date: 9/14/2017

Project: RI/FS - Ft. Bliss N. Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

M

Activity: MDAS (Munitions Documented As Safe) Certification and Shipping

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By: [REDACTED] CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Inspect all MPPEH for Energetics.	MEC - unintentional detonation puncture/detonation	Safe work practices. Wear cut resistant gloves.	M
X	Prepare/load MDAS Containers.	Working near heavy equipment.	Wear reflective warning vests when exposed to vehicular traffic; isolate equipment swing and counterbalance areas; make eye contact with operator before approaching equipment; barricade or enclose the work area; restrict work area to authorized personnel only; wear appropriate PPE.	M
X				L

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Hand Tools	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.

# ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Heavy Equipment	Worker to have knowledge of proper use.	Inspect all equipment for safe working order upon receipt and daily thereafter. All equipment shall have rollover protection, direction warning systems, and seat belts. Review the Heavy Equipment and Drilling Equipment Checklist.

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature):

A large, empty red rectangular box intended for a digital signature or stamp.

# ACTIVITY HAZARDS ANALYSIS

Date: 9/5/2017

Project: RI/FS Ft. Bliss N Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

L

Activity: Soil Sampling

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By: [REDACTED] CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Soil sampling using hand augers/trowels	• Pinching, back strain, smashing, cutting, tripping • Eye injuries	• Wear eye protection • Wear proper fitting gloves • Clear area of other people • Use proper lifting techniques • Do not leave tools laying around	L
X	Soil sampling using hand augers	Hand/wrist injury	Remove excavated soil only after stopping the hand auger  wear gloves  Employ hand movements that exert minimum pressure on wrist bones	L
X	Sample Collection a. Prepare sample bottles with preservatives and labels. b. Collect soil sample and place into sample bottles.	Contact with contaminated soils	Wear disposable nitrile gloves and ANSI approved safety glasses when collecting sample to minimize contact with contaminated soils	L
X				L

Add Items

EQUIPMENT	TRAINING	INSPECTION
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# ACTIVITY HAZARDS ANALYSIS

EQUIPMENT		TRAINING	INSPECTION
X	Vehicles and Trailers (as necessary)	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Initial vehicle inspection before use on Project. Weekly vehicle inspections will be conducted throughout project duration. Review Vehicle Checklist  Prior to operating, a visual & manual inspection of the equipment shall be conducted. Check for anything that might need to be repaired (broken, missing, or damaged parts) Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.
X	Hand Tools	Worker to have knowledge of proper use. Only trained personnel shall operate equipment.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	PPE = Level D	Only trained personnel shall don and conduct task activities in PPE.	Inspection before use.
X	First Aid/CPR	Certified Training Program with two qualified personnel	

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature):



# ACTIVITY HAZARDS ANALYSIS

Date: 9/14/2017

Project: RI/FS - Ft. Bliss N. Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

L

Activity: Demobilization

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By: [REDACTED] CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Vehicle operation driving from job site	Collision with other vehicles, persons, or objects	Remain alert at all times and exercise defensive driving techniques; do not use cell phones while driving unless a hands-free device is used; drive according to posted speed limits, environment, and road conditions; wear seat belts when driving or riding in vehicle, use headlights and turn signals when applicable. Adjust driving speed to compensate for road and surface conditions; reduce speed to prevent hydroplaning on wet road surfaces; allow additional driving time or reschedule trips during severe weather.	L
X	Loading Equipment, tools and materials	Crushed, caught-in or between	Locate a flat, level, open area clear of overhead utilities and obstructions to unload equipment and materials, always chock wheels. Personnel shall wear class II high visibility vests. Be alert to material and equipment loading/unloading hazards and moving equipment. Use a spotter to aid in unloading and to watch for overhead and backing hazards, and pedestrian/vehicular traffic.	L
X	Decontamination	Contact with contaminated materials	Wear disposable nitrile gloves and ANSI approved safety glasses during decontamination.	L
X				

Add Items

	EQUIPMENT	TRAINING	INSPECTION
X	Vehicles / Trailer	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Prior to operating, a visual & manual inspection of project vehicles shall be conducted. Check for anything that might need to be repaired. Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.

# ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Heavy Equipment	Worker to have knowledge of proper use. Only trained personnel shall operate equipment. Only personnel given the express consent of the Response Manager shall operate heavy equipment.	Initial inspection upon receipt and thereafter before use on Project. Weekly vehicle inspections will be conducted throughout project duration. Review Vehicle Checklist.  Prior to operating, a visual & manual inspection of the equipment shall be conducted. Check for anything that might need to be repaired (broken, missing, or damaged parts). Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature):



# ACTIVITY HAZARDS ANALYSIS

Date: 6 September 2017

Project: RI/FS - Ft. Bliss N. Castner AOI

Overall Risk Assessment Code (RAC)  
(Use highest code)

L

Activity: Mobilization and Site Preparation

Activity Location: N. Castner AOI, Fort Bliss, TX

Prepared By: [REDACTED] CHMM

E = Extremely High Risk  
H = High Risk  
M = Moderate Risk  
L = Low Risk

Severity	Catastrophic	Probability				
		Frequent	Likely	Occasional	Seldom	Unlikely
	Catastrophic	E	E	H	H	M
	Critical	E	H	H	M	L
	Marginal	H	M	M	L	L
	Negligible	M	L	L	L	L

Add Identified Hazards

	JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Mobilization: Vehicle Operation and working around motor vehicles	Struck by Crushing injuries Caught between Danger to passing motor vehicles Accidents caused by other drivers	Provide approved traffic control program to eliminate traffic hazards.  Always wear reflective vests when exposed to vehicular traffic. Be alert to material and equipment loading/unloading hazards and moving equipment. Use a spotter to aid in unloading and to watch for overhead and backing-up hazards, and pedestrian/vehicular traffic. Vehicles will obey all speed limits and will be operated in a non-reckless manner. No vehicle will be overloaded or loaded in such a way as to obscure the view of the driver.	L
X	Planning	General	A thorough site assessment has been conducted to review data and recognize potential hazards; there are no contaminants listed above the Occupational Exposure Level and therefore an SSHP is not required.  Review required PPE- Hard hat, safety glasses, proper gloves, long sleeve shirt, safety boots, high visibility vest, and any other task specific PPE.	L
X	Site Set-up / Establishing Work Zones	Slips, trips, falls, machinery hazards	Inspect area for hazards that could cause slip, trip, fall hazards and remove material if hazard exists.  Ensure area is clean and orderly.	L
X		Underground / Buried Utilities	Identify all on-site utilities prior to any site activities. The local utility company and Public Works Department in Niland, the Camp Billy Machen equivalent, or the Imperial County utilities shall be contacted along with one call to Dig Safe California (811) will be made in advance of planned excavation activities and work areas will be marked out for all utility providers to clearly see and locate.	L

# ACTIVITY HAZARDS ANALYSIS

JOB STEPS	HAZARDS	ACTIONS TO ELIMINATE OR MINIMIZE HAZARDS	RAC
X	Fire Hazards / Equipment Re-fueling / Smoking	Prior to refueling any equipment, shut off the equipment and allow the engine to cool. Ensure the fueling area is well ventilated. Do not smoke while refueling. Keep open flames and sparks away from area. Know where the fire extinguishers are located. Do not leave equipment unattended while fueling. Equipment will not be positioned in dry vegetation in such a manner that could create a fire.	L
X	Sprains / Strains / Pulled muscle	Personnel shall use proper lifting techniques and body mechanics, such as keeping back straight, using legs to lift, and limiting twisting motion. Use mechanical means of lifting / transporting materials when possible. Follow the buddy system, request assistance when handling bulky items.	L
X	Pinch points / hand traps	Proper hand protection will be worn to minimize the possibility of injuries due to cuts and abrasions. Potential pinch points will be identified and marked to avoid injury. Think before placing hands into hazards areas, near moving parts.	L
X	Poisonous vegetation / stinging insects	Under no circumstances should personnel that are typically allergic participate in initial hazard assessments. Wasps/hornets/bees and other stinging insects encountered on site present a serious hazard to those workers who are allergic. Employees whom are allergic should notify the Response Manager/co-workers prior to starting operations and make known the degree of allergic reactions experienced in the past, and inform others of the location of medicine/shots that need to be taken in the event of being stung. Personnel shall IMMEDIATELY notify the RM/SSO of any injury, bite, or sting regardless of how minor or insignificant it appears.	L
X	Heat / Cold stress	Personnel shall be trained on the signs and symptoms of cold/heat stress. An effective work/rest schedule will be implemented to regulate weather exposures. Remain hydrated and refrain from alcohol use after work hours. The buddy system will be closely followed and personnel will monitor each other for the signs and symptoms of heat / cold stress.	L
X	Shock / electricution	Only licensed electricians will be used to run electricity to Site trailers and install electrical panels. All extension cords will be inspected before use for damage and removed from service if damage is found. Ground fault circuit interrupters shall be used on all 110-120-240 circuits	L

Add Items

EQUIPMENT	TRAINING	INSPECTION
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# ACTIVITY HAZARDS ANALYSIS

	EQUIPMENT	TRAINING	INSPECTION
X	Vehicles and Trailers (as necessary)	Only trained personnel shall operate equipment. Ensure that drivers are given a daily safety briefing safety presentation prior to work on the site.	Initial vehicle inspection before use on Project. Weekly vehicle inspections will be conducted throughout project duration. Review Vehicle Checklist  Prior to operating, a visual & manual inspection of the equipment shall be conducted. Check for anything that might need to be repaired (broken, missing, or damaged parts) Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.
X	Hand Tools	Worker to have knowledge of proper use. Only trained personnel shall operate equipment.	Inspect all equipment for safe working order upon receipt and before use. Review Hand Tool Checklist
X	Heavy Equipment	Worker to have knowledge of proper use. Only trained personnel shall operate equipment. Only personnel given the express consent of the Response Manager shall operate heavy equipment.	Initial inspection upon receipt and thereafter before use on Project. Weekly vehicle inspections will be conducted throughout project duration. Review Vehicle Checklist.  Prior to operating, a visual & manual inspection of the equipment shall be conducted. Check for anything that might need to be repaired (broken, missing, or damaged parts). Visually inspect ground conditions/area for obstacles that may present a hazard while moving the equipment, truck, etc.
X	Safety Equipment First Aid Kit Fire Extinguisher SDS Folder Hospital Directions and Contact Numbers Eyewash station (ANSI Standard Z358.1-2004 or later)	Team members shall have training and knowledge of proper use of all safety equipment. Site specific orientation training will cover the location of emergency equipment and assembly areas. Hospital routes will be driven to ensure the maps are correct.	Initial inspection before use on Project. Monthly extinguisher and eye wash station inspections will be conducted throughout project duration
X	PPE - Level D Safety glasses with side shields Hard hat Steel-toed boots Cut Resistant Gloves Class II High Visibility Safety vest Face shield - when necessary Hearing protection when necessary Dust Mask - optional	40 Hour Hazardous Waste Operations and Emergency Response. 8 Hour Refresher Course (once per year). CPR and First Aid Training (at least two people on-site). Heavy equipment operators should be trained on specific equipment. Site specific orientation and emergency response procedures, assembly areas, location of emergency equipment, SDS folder, and hospital driving directions / map and contact numbers.	Inspect prior to use.
X			

# ACTIVITY HAZARDS ANALYSIS

Involved Personnel:

Qualified Personnel: SUXOS

Acceptance Authority (digital signature):

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**Site Safety and Health Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**EXHIBIT C  
Safety Data Sheets**



# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950  
US GHS

Synonyms: Hess Conventional (Oxygenated and Non-oxygenated) Gasoline; Reformulated Gasoline (RFG); Reformulated Gasoline Blendstock for Oxygenate Blending (RBOB); Unleaded Motor or Automotive Gasoline

## \* \* \* Section 1 - Product and Company Identification \* \* \*

### Manufacturer Information

Hess Corporation  
1 Hess Plaza  
Woodbridge, NJ 07095-0961

Phone: 732-750-6000 Corporate EHS  
Emergency # 800-424-9300 CHEMTREC  
[www.hess.com](http://www.hess.com) (Environment, Health, Safety Internet Website)

## \* \* \* Section 2 - Hazards Identification \* \* \*

### GHS Classification:

Flammable Liquid - Category 2  
Skin Corrosion/Irritation - Category 2  
Germ Cell Mutagenicity - Category 1B  
Carcinogenicity - Category 1B  
Toxic to Reproduction - Category 1A  
Specific Target Organ Toxicity (Single Exposure) - Category 3 (respiratory irritation, narcosis)  
Specific Target Organ Toxicity (Repeat Exposure) - Category 1 (liver, kidneys, bladder, blood, bone marrow, nervous system)  
Aspiration Hazard - Category 1  
Hazardous to the Aquatic Environment – Acute Hazard - Category 3

### GHS LABEL ELEMENTS

#### Symbol(s)



#### Signal Word

DANGER

#### Hazard Statements

Highly flammable liquid and vapour.  
Causes skin irritation.  
May cause genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
May cause respiratory irritation.  
May cause drowsiness or dizziness.  
Causes damage to organs (liver, kidneys, bladder, blood, bone marrow, nervous system) through prolonged or repeated exposure.  
May be fatal if swallowed and enters airways.  
Harmful to aquatic life.

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## Precautionary Statements

### Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking  
Keep container tightly closed.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilating/lighting/equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Wear protective gloves/protective clothing/eye protection/face protection.  
Wash hands and forearms thoroughly after handling.  
Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe mist/vapours/spray.  
Use only outdoors or in well-ventilated area.  
Do not eat, drink or smoke when using this product.  
Avoid release to the environment.

### Response

In case of fire: Use water spray, fog, dry chemical fire extinguishers or hand held fire extinguisher.  
IF ON SKIN (or hair): Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.  
IF exposed or concerned: Get medical advice/attention.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.  
Get medical advice/attention if you feel unwell.  
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting.

### Storage

Store in a well-ventilated place.  
Keep cool. Keep container tightly closed.  
Store locked up.

### Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

## \* \* \* Section 3 - Composition / Information on Ingredients \* \* \*

CAS #	Component	Percent
86290-81-5	Gasoline, motor fuel	100
108-88-3	Toluene	1-25
106-97-8	Butane	<10
1330-20-7	Xylenes (o-, m-, p- isomers)	1-15
95-63-6	Benzene, 1,2,4-trimethyl-	<6
64-17-5	Ethyl alcohol	0-10
100-41-4	Ethylbenzene	<3
71-43-2	Benzene	0.1-4.9

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

110-54-3	Hexane	0.5-4
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A complex blend of petroleum-derived normal and branched-chain alkane, cycloalkane, alkene, and aromatic hydrocarbons. May contain antioxidant and multifunctional additives. Non-oxygenated Conventional Gasoline and RBOB do not have oxygenates (Ethanol). Oxygenated Conventional and Reformulated Gasoline will have oxygenates for octane enhancement or as legally required.

## \* \* \* Section 4 - First Aid Measures \* \* \*

### First Aid: Eyes

In case of contact with eyes, immediately flush with clean, low-pressure water for at least 15 min. Hold eyelids open to ensure adequate flushing. Seek medical attention.

### First Aid: Skin

Remove contaminated clothing. Wash contaminated areas thoroughly with soap and water or with waterless hand cleanser. Obtain medical attention if irritation or redness develops.

### First Aid: Ingestion

DO NOT INDUCE VOMITING. Do not give liquids. Obtain immediate medical attention. If spontaneous vomiting occurs, lean victim forward to reduce the risk of aspiration. Monitor for breathing difficulties. Small amounts of material which enter the mouth should be rinsed out until the taste is dissipated.

### First Aid: Inhalation

Remove person to fresh air. If person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.

## \* \* \* Section 5 - Fire Fighting Measures \* \* \*

### General Fire Hazards

See Section 9 for Flammability Properties.

Vapors may be ignited rapidly when exposed to heat, spark, open flame or other source of ignition. Flowing product may be ignited by self-generated static electricity. When mixed with air and exposed to an ignition source, flammable vapors can burn in the open or explode in confined spaces. Being heavier than air, vapors may travel long distances to an ignition source and flash back. Runoff to sewer may cause fire or explosion hazard.

### Hazardous Combustion Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

### Extinguishing Media

SMALL FIRES: Any extinguisher suitable for Class B fires, dry chemical, CO<sub>2</sub>, water spray, fire fighting foam, or gaseous extinguishing agent.

LARGE FIRES: Water spray, fog or fire fighting foam. Water may be ineffective for fighting the fire, but may be used to cool fire-exposed containers.

Firefighting foam suitable for polar solvents is recommended for fuel with greater than 10% oxygenate concentration.

### Unsuitable Extinguishing Media

None

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## Fire Fighting Equipment/Instructions

Small fires in the incipient (beginning) stage may typically be extinguished using handheld portable fire extinguishers and other fire fighting equipment. Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH/MSHA- approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing. Isolate area around container involved in fire. Cool tanks, shells, and containers exposed to fire and excessive heat with water. For massive fires the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure. Major fires may require withdrawal, allowing the tank to burn. Large storage tank fires typically require specially trained personnel and equipment to extinguish the fire, often including the need for properly applied fire fighting foam.

## \* \* \* Section 6 - Accidental Release Measures \* \* \*

### Recovery and Neutralization

Carefully contain and stop the source of the spill, if safe to do so.

### Materials and Methods for Clean-Up

Take up with sand or other oil absorbing materials. Carefully shovel, scoop or sweep up into a waste container for reclamation or disposal. Caution, flammable vapors may accumulate in closed containers.

### Emergency Measures

Evacuate nonessential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible. Evaluate the direction of product travel, diking, sewers, etc. to confirm spill areas. Spills may infiltrate subsurface soil and groundwater; professional assistance may be necessary to determine the extent of subsurface impact.

### Personal Precautions and Protective Equipment

Response and clean-up crews must be properly trained and must utilize proper protective equipment (see Section 8).

### Environmental Precautions

Protect bodies of water by diking, absorbents, or absorbent boom, if possible. Do not flush down sewer or drainage systems, unless system is designed and permitted to handle such material. The use of fire fighting foam may be useful in certain situations to reduce vapors. The proper use of water spray may effectively disperse product vapors or the liquid itself, preventing contact with ignition sources or areas/equipment that require protection.

### Prevention of Secondary Hazards

None

## \* \* \* Section 7 - Handling and Storage \* \* \*

### Handling Procedures

USE ONLY AS A MOTOR FUEL.

DO NOT SIPHON BY MOUTH

Handle as a flammable liquid. Keep away from heat, sparks, and open flame! Electrical equipment should be approved for classified area. Bond and ground containers during product transfer to reduce the possibility of static-initiated fire or explosion.

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

Special slow load procedures for "switch loading" must be followed to avoid the static ignition hazard that can exist when higher flash point material (such as fuel oil) is loaded into tanks previously containing low flash point products (such as this product) - see API Publication 2003, "Protection Against Ignitions Arising Out Of Static, Lightning and Stray Currents."

## Storage Procedures

Keep away from flame, sparks, excessive temperatures and open flame. Use approved vented containers. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Store in a well-ventilated area. This storage area should comply with NFPA 30 "Flammable and Combustible Liquid Code". Avoid storage near incompatible materials. The cleaning of tanks previously containing this product should follow API Recommended Practice (RP) 2013 "Cleaning Mobile Tanks In Flammable and Combustible Liquid Service" and API RP 2015 "Cleaning Petroleum Storage Tanks".

## Incompatibilities

Keep away from strong oxidizers.

## \* \* \* Section 8 - Exposure Controls / Personal Protection \* \* \*

### Component Exposure Limits

#### Gasoline, motor fuel (86290-81-5)

ACGIH: 300 ppm TWA  
500 ppm STEL

#### Toluene (108-88-3)

ACGIH: 20 ppm TWA  
OSHA: 200 ppm TWA; 375 mg/m<sup>3</sup> TWA  
150 ppm STEL; 560 mg/m<sup>3</sup> STEL  
NIOSH: 100 ppm TWA; 375 mg/m<sup>3</sup> TWA  
150 ppm STEL; 560 mg/m<sup>3</sup> STEL

#### Butane (106-97-8)

ACGIH: 1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)  
OSHA: 800 ppm TWA; 1900 mg/m<sup>3</sup> TWA  
NIOSH: 800 ppm TWA; 1900 mg/m<sup>3</sup> TWA

#### Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: 100 ppm TWA  
150 ppm STEL  
OSHA: 100 ppm TWA; 435 mg/m<sup>3</sup> TWA  
150 ppm STEL; 655 mg/m<sup>3</sup> STEL

#### Benzene, 1,2,4-trimethyl- (95-63-6)

NIOSH: 25 ppm TWA; 125 mg/m<sup>3</sup> TWA

#### Ethyl alcohol (64-17-5)

ACGIH: 1000 ppm STEL  
OSHA: 1000 ppm TWA; 1900 mg/m<sup>3</sup> TWA  
NIOSH: 1000 ppm TWA; 1900 mg/m<sup>3</sup> TWA

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## Ethylbenzene (100-41-4)

ACGIH: 20 ppm TWA  
OSHA: 100 ppm TWA; 435 mg/m<sup>3</sup> TWA  
125 ppm STEL; 545 mg/m<sup>3</sup> STEL  
NIOSH: 100 ppm TWA; 435 mg/m<sup>3</sup> TWA  
125 ppm STEL; 545 mg/m<sup>3</sup> STEL

## Benzene (71-43-2)

ACGIH: 0.5 ppm TWA  
2.5 ppm STEL  
Skin - potential significant contribution to overall exposure by the cutaneous route  
OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA  
NIOSH: 0.1 ppm TWA  
1 ppm STEL

## Hexane (110-54-3)

ACGIH: 50 ppm TWA  
Skin - potential significant contribution to overall exposure by the cutaneous route  
OSHA: 500 ppm TWA; 1800 mg/m<sup>3</sup> TWA  
NIOSH: 50 ppm TWA; 180 mg/m<sup>3</sup> TWA

## Engineering Measures

Use adequate ventilation to keep vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces.

## Personal Protective Equipment: Respiratory

A NIOSH/MSHA-approved air-purifying respirator with organic vapor cartridges or canister may be permissible under certain circumstances where airborne concentrations are or may be expected to exceed exposure limits or for odor or irritation. Protection provided by air-purifying respirators is limited.

Use a positive pressure, air-supplied respirator if there is a potential for uncontrolled release, exposure levels are not known, in oxygen-deficient atmospheres, or any other circumstance where an air-purifying respirator may not provide adequate protection.

## Personal Protective Equipment: Hands

Gloves constructed of nitrile, neoprene, or PVC are recommended.

## PERSONAL PROTECTIVE EQUIPMENT

## Personal Protective Equipment: Eyes

Safety glasses or goggles are recommended where there is a possibility of splashing or spraying.

## Personal Protective Equipment: Skin and Body

Chemical protective clothing such as of E.I. DuPont TyChem®, Saranex® or equivalent recommended based on degree of exposure. Note: The resistance of specific material may vary from product to product as well as with degree of exposure. Consult manufacturer specifications for further information.

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## \* \* \* Section 9 - Physical & Chemical Properties \* \* \*

<b>Appearance:</b>	Translucent, straw-colored or light yellow	<b>Odor:</b>	Strong, characteristic aromatic hydrocarbon odor. Sweet-ether like
<b>Physical State:</b>	Liquid	<b>pH:</b>	ND
<b>Vapor Pressure:</b>	6.4 - 15 RVP @ 100 °F (38 °C) (275-475 mm Hg @ 68 °F (20 °C))	<b>Vapor Density:</b>	AP 3-4
<b>Boiling Point:</b>	85-437 °F (39-200 °C)	<b>Melting Point:</b>	ND
<b>Solubility (H<sub>2</sub>O):</b>	Negligible to Slight	<b>Specific Gravity:</b>	0.70-0.78
<b>Evaporation Rate:</b>	10-11	<b>VOC:</b>	ND
<b>Percent Volatile:</b>	100%	<b>Octanol/H<sub>2</sub>O Coeff.:</b>	ND
<b>Flash Point:</b>	-45 °F (-43 °C)	<b>Flash Point Method:</b>	PMCC
<b>Upper Flammability Limit (UFL):</b>	7.6%	<b>Lower Flammability Limit (LFL):</b>	1.4%
<b>Burning Rate:</b>	ND	<b>Auto Ignition:</b>	>530°F (>280°C)

## \* \* \* Section 10 - Chemical Stability & Reactivity Information \* \* \*

### Chemical Stability

This is a stable material.

### Hazardous Reaction Potential

Will not occur.

### Conditions to Avoid

Avoid high temperatures, open flames, sparks, welding, smoking and other ignition sources.

### Incompatible Products

Keep away from strong oxidizers.

### Hazardous Decomposition Products

Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke). Contact with nitric and sulfuric acids will form nitrocresols that can decompose violently.

## \* \* \* Section 11 - Toxicological Information \* \* \*

### Acute Toxicity

#### A: General Product Information

Harmful if swallowed.

#### B: Component Analysis - LD50/LC50

Gasoline, motor fuel (86290-81-5)

Inhalation LC50 Rat >5.2 mg/L 4 h; Oral LD50 Rat 14000 mg/kg; Dermal LD50 Rabbit >2000 mg/kg

#### Toluene (108-88-3)

Inhalation LC50 Rat 12.5 mg/L 4 h; Inhalation LC50 Rat >26700 ppm 1 h; Oral LD50 Rat 636 mg/kg; Dermal LD50 Rabbit 8390 mg/kg; Dermal LD50 Rat 12124 mg/kg

#### Butane (106-97-8)

Inhalation LC50 Rat 658 mg/L 4 h

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## **Xylenes (o-, m-, p- isomers) (1330-20-7)**

Inhalation LC50 Rat 5000 ppm 4 h; Inhalation LC50 Rat 47635 mg/L 4 h; Oral LD50 Rat 4300 mg/kg; Dermal LD50 Rabbit >1700 mg/kg

## **Benzene, 1,2,4-trimethyl- (95-63-6)**

Inhalation LC50 Rat 18 g/m<sup>3</sup> 4 h; Oral LD50 Rat 3400 mg/kg; Dermal LD50 Rabbit >3160 mg/kg

## **Ethyl alcohol (64-17-5)**

Oral LD50 Rat 7060 mg/kg; Inhalation LC50 Rat 124.7 mg/L 4 h

## **Ethylbenzene (100-41-4)**

Inhalation LC50 Rat 17.2 mg/L 4 h; Oral LD50 Rat 3500 mg/kg; Dermal LD50 Rabbit 15354 mg/kg

## **Benzene (71-43-2)**

Inhalation LC50 Rat 13050-14380 ppm 4 h; Oral LD50 Rat 1800 mg/kg

## **Hexane (110-54-3)**

Inhalation LC50 Rat 48000 ppm 4 h; Oral LD50 Rat 25 g/kg; Dermal LD50 Rabbit 3000 mg/kg

## **Potential Health Effects: Skin Corrosion Property/Stimulativeness**

Practically non-toxic if absorbed following acute (single) exposure. May cause skin irritation with prolonged or repeated contact. Liquid may be absorbed through the skin in toxic amounts if large areas of skin are repeatedly exposed.

## **Potential Health Effects: Eye Critical Damage/ Stimulativeness**

Moderate irritant. Contact with liquid or vapor may cause irritation.

## **Potential Health Effects: Ingestion**

Ingestion may cause gastrointestinal disturbances, including irritation, nausea, vomiting and diarrhea, and central nervous system (brain) effects similar to alcohol intoxication. In severe cases, tremors, convulsions, loss of consciousness, coma, respiratory arrest, and death may occur.

## **Potential Health Effects: Inhalation**

Excessive exposure may cause irritations to the nose, throat, lungs and respiratory tract. Central nervous system (brain) effects may include headache, dizziness, loss of balance and coordination, unconsciousness, coma, respiratory failure, and death.

**WARNING:** the burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

## **Respiratory Organs Sensitization/Skin Sensitization**

This product is not reported to have any skin sensitization effects.

## **Generative Cell Mutagenicity**

This product may cause genetic defects.

## **Carcinogenicity**

### **A: General Product Information**

May cause cancer.

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Material Name: Gasoline All Grades

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IARC has determined that gasoline and gasoline exhaust are possibly carcinogenic in humans. Inhalation exposure to completely vaporized unleaded gasoline caused kidney cancers in male rats and liver tumors in female mice. The U.S. EPA has determined that the male kidney tumors are species-specific and are irrelevant for human health risk assessment. The significance of the tumors seen in female mice is not known. Exposure to light hydrocarbons in the same boiling range as this product has been associated in animal studies with effects to the central and peripheral nervous systems, liver, and kidneys. The significance of these animal models to predict similar human response to gasoline is uncertain.

This product contains benzene. Human health studies indicate that prolonged and/or repeated overexposure to benzene may cause damage to the blood-forming system (particularly bone marrow), and serious blood disorders such as aplastic anemia and leukemia. Benzene is listed as a human carcinogen by the NTP, IARC, OSHA and ACGIH.

## B: Component Carcinogenicity

### Gasoline, motor fuel (86290-81-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

### Toluene (108-88-3)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

### Xylenes (o-, m-, p- isomers) (1330-20-7)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

### Ethyl alcohol (64-17-5)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 100E [in preparation] (in alcoholic beverages); Monograph 96 [2010] (in alcoholic beverages) (Group 1 (carcinogenic to humans))

### Ethylbenzene (100-41-4)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

IARC: Monograph 77 [2000] (Group 2B (possibly carcinogenic to humans))

### Benzene (71-43-2)

ACGIH: A1 - Confirmed Human Carcinogen

OSHA: 5 ppm STEL (Cancer hazard, Flammable, See 29 CFR 1910.1028, 15 min); 0.5 ppm Action Level; 1 ppm TWA

NIOSH: potential occupational carcinogen

NTP: Known Human Carcinogen (Select Carcinogen)

IARC: Monograph 100F [in preparation]; Supplement 7 [1987]; Monograph 29 [1982] (Group 1 (carcinogenic to humans))

## Reproductive Toxicity

This product is suspected of damaging fertility or the unborn child.

## Specified Target Organ General Toxicity: Single Exposure

This product may cause drowsiness or dizziness.

# Safety Data Sheet

Material Name: Gasoline All Grades

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## Specified Target Organ General Toxicity: Repeated Exposure

This product causes damage to organs through prolonged or repeated exposure.

## Aspiration Respiratory Organs Hazard

The major health threat of ingestion occurs from the danger of aspiration (breathing) of liquid drops into the lungs, particularly from vomiting. Aspiration may result in chemical pneumonia (fluid in the lungs), severe lung damage, respiratory failure and even death.

## \* \* \* Section 12 - Ecological Information \* \* \*

### Ecotoxicity

#### A: General Product Information

Very toxic to aquatic life with long lasting effects. Keep out of sewers, drainage areas and waterways. Report spills and releases, as applicable, under Federal and State regulations.

#### B: Component Analysis - Ecotoxicity - Aquatic Toxicity

##### Gasoline, motor fuel (86290-81-5)

Test & Species	Conditions
96 Hr LC50 <i>Alburnus alburnus</i>	119 mg/L [static]
96 Hr LC50 <i>Cyprinodon variegatus</i>	82 mg/L [static]
72 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	56 mg/L
24 Hr EC50 <i>Daphnia magna</i>	170 mg/L

##### Toluene (108-88-3)

Test & Species	Conditions
96 Hr LC50 <i>Pimephales promelas</i>	15.22-19.05 mg/L [flow-through]
96 Hr LC50 <i>Pimephales promelas</i>	12.6 mg/L [static]
96 Hr LC50 <i>Oncorhynchus mykiss</i>	5.89-7.81 mg/L [flow-through]
96 Hr LC50 <i>Oncorhynchus mykiss</i>	14.1-17.16 mg/L [static]
96 Hr LC50 <i>Oncorhynchus mykiss</i>	5.8 mg/L [semi-static]
96 Hr LC50 <i>Lepomis macrochirus</i>	11.0-15.0 mg/L [static]
96 Hr LC50 <i>Oryzias latipes</i>	54 mg/L [static]
96 Hr LC50 <i>Poecilia reticulata</i>	28.2 mg/L [semi-static]
96 Hr LC50 <i>Poecilia reticulata</i>	50.87-70.34 mg/L [static]
96 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	>433 mg/L
72 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	12.5 mg/L [static]
48 Hr EC50 <i>Daphnia magna</i>	5.46 - 9.83 mg/L [Static]
48 Hr EC50 <i>Daphnia magna</i>	11.5 mg/L

##### Xylenes (o-, m-, p- isomers) (1330-20-7)

Test & Species	Conditions
96 Hr LC50 <i>Pimephales promelas</i>	13.4 mg/L [flow-through]

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96 Hr LC50 <i>Oncorhynchus mykiss</i>	2.661-4.093 mg/L [static]
96 Hr LC50 <i>Oncorhynchus mykiss</i>	13.5-17.3 mg/L
96 Hr LC50 <i>Lepomis macrochirus</i>	13.1-16.5 mg/L [flow-through]
96 Hr LC50 <i>Lepomis macrochirus</i>	19 mg/L
96 Hr LC50 <i>Lepomis macrochirus</i>	7.711-9.591 mg/L [static]
96 Hr LC50 <i>Pimephales promelas</i>	23.53-29.97 mg/L [static]
96 Hr LC50 <i>Cyprinus carpio</i>	780 mg/L [semi-static]
96 Hr LC50 <i>Cyprinus carpio</i>	>780 mg/L
96 Hr LC50 <i>Poecilia reticulata</i>	30.26-40.75 mg/L [static]
48 Hr EC50 water flea	3.82 mg/L
48 Hr LC50 <i>Gammarus lacustris</i>	0.6 mg/L

## Benzene, 1,2,4-trimethyl- (95-63-6)

### Test & Species

### Conditions

96 Hr LC50 <i>Pimephales promelas</i>	7.19-8.28 mg/L [flow-through]
48 Hr EC50 <i>Daphnia magna</i>	6.14 mg/L

## Ethyl alcohol (64-17-5)

### Test & Species

### Conditions

96 Hr LC50 <i>Oncorhynchus mykiss</i>	12.0 - 16.0 mL/L [static]
96 Hr LC50 <i>Pimephales promelas</i>	>100 mg/L [static]
96 Hr LC50 <i>Pimephales promelas</i>	13400 - 15100 mg/L [flow-through]
48 Hr LC50 <i>Daphnia magna</i>	9268 - 14221 mg/L
24 Hr EC50 <i>Daphnia magna</i>	10800 mg/L
48 Hr EC50 <i>Daphnia magna</i>	2 mg/L [Static]

## Ethylbenzene (100-41-4)

### Test & Species

### Conditions

96 Hr LC50 <i>Oncorhynchus mykiss</i>	11.0-18.0 mg/L [static]
96 Hr LC50 <i>Oncorhynchus mykiss</i>	4.2 mg/L [semi-static]
96 Hr LC50 <i>Pimephales promelas</i>	7.55-11 mg/L [flow-through]
96 Hr LC50 <i>Lepomis macrochirus</i>	32 mg/L [static]
96 Hr LC50 <i>Pimephales promelas</i>	9.1-15.6 mg/L [static]
96 Hr LC50 <i>Poecilia reticulata</i>	9.6 mg/L [static]
72 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	4.6 mg/L
96 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	>438 mg/L
72 Hr EC50 <i>Pseudokirchneriella subcapitata</i>	2.6 - 11.3 mg/L [static]

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96 Hr EC50 Pseudokirchneriella subcapitata	1.7 - 7.6 mg/L [static]
48 Hr EC50 Daphnia magna	1.8 - 2.4 mg/L

## Benzene (71-43-2)

### Test & Species

96 Hr LC50 Pimephales promelas	10.7-14.7 mg/L [flow-through]
96 Hr LC50 Oncorhynchus mykiss	5.3 mg/L [flow-through]
96 Hr LC50 Lepomis macrochirus	22.49 mg/L [static]
96 Hr LC50 Poecilia reticulata	28.6 mg/L [static]
96 Hr LC50 Pimephales promelas	22330-41160 µg/L [static]
96 Hr LC50 Lepomis macrochirus	70000-142000 µg/L [static]
72 Hr EC50 Pseudokirchneriella subcapitata	29 mg/L
48 Hr EC50 Daphnia magna	8.76 - 15.6 mg/L [Static]
48 Hr EC50 Daphnia magna	10 mg/L

### Conditions

## Hexane (110-54-3)

### Test & Species

96 Hr LC50 Pimephales promelas	2.1-2.98 mg/L [flow-through]
24 Hr EC50 Daphnia magna	>1000 mg/L

### Conditions

## Persistence/Degradability

No information available.

## Bioaccumulation

No information available.

## Mobility in Soil

No information available.

## \* \* \* Section 13 - Disposal Considerations \* \* \*

## Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

## Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## \* \* \* Section 14 - Transportation Information \* \* \*

### Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

### DOT Information

Shipping Name: Gasoline

UN #: 1203 Hazard Class: 3 Packing Group: II

Placard:



## \* \* \* Section 15 - Regulatory Information \* \* \*

### Regulatory Information

#### A: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

#### Toluene (108-88-3)

SARA 313: 1.0 % de minimis concentration  
CERCLA: 1000 lb final RQ; 454 kg final RQ

#### Xylenes (o-, m-, p- isomers) (1330-20-7)

SARA 313: 1.0 % de minimis concentration  
CERCLA: 100 lb final RQ; 45.4 kg final RQ

#### Benzene, 1,2,4-trimethyl- (95-63-6)

SARA 313: 1.0 % de minimis concentration

#### Ethylbenzene (100-41-4)

SARA 313: 0.1 % de minimis concentration  
CERCLA: 1000 lb final RQ; 454 kg final RQ

#### Benzene (71-43-2)

SARA 313: 0.1 % de minimis concentration  
CERCLA: 10 lb final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule); 4.54 kg final RQ (received an adjusted RQ of 10 lbs based on potential carcinogenicity in an August 14, 1989 final rule)

# Safety Data Sheet

Material Name: Gasoline All Grades

SDS No. 9950

## Hexane (110-54-3)

SARA 313: 1.0 % de minimis concentration  
CERCLA: 5000 lb final RQ; 2270 kg final RQ

## SARA Section 311/312 – Hazard Classes

<u>Acute Health</u>	<u>Chronic Health</u>	<u>Fire</u>	<u>Sudden Release of Pressure</u>	<u>Reactive</u>
X	X	X	--	--

## Component Marine Pollutants

This material contains one or more of the following chemicals required by US DOT to be identified as marine pollutants.

Component	CAS #	
Gasoline, motor fuel	86290-81-5	DOT regulated marine pollutant

## State Regulations

### Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Gasoline, motor fuel	86290-81-5	No	No	No	No	Yes	No
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	No
Butane	106-97-8	Yes	Yes	Yes	Yes	Yes	No
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	Yes	Yes	Yes	Yes	No
Benzene, 1,2,4-trimethyl-	95-63-6	No	Yes	Yes	Yes	Yes	No
Ethyl alcohol	64-17-5	Yes	Yes	Yes	Yes	Yes	No
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	Yes	No
Benzene	71-43-2	Yes	Yes	Yes	Yes	Yes	No
Hexane	110-54-3	No	Yes	Yes	Yes	Yes	No

The following statement(s) are provided under the California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65):

WARNING! This product contains a chemical known to the state of California to cause cancer.

WARNING! This product contains a chemical known to the state of California to cause reproductive/developmental effects.

# Safety Data Sheet

Material Name: Gasoline All Grades

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## Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Toluene	108-88-3	1 %
Butane	106-97-8	1 %
Benzene, 1,2,4-trimethyl-	95-63-6	0.1 %
Ethyl alcohol	64-17-5	0.1 %
Ethylbenzene	100-41-4	0.1 %
Benzene	71-43-2	0.1 %
Hexane	110-54-3	1 %

## Additional Regulatory Information

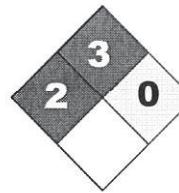
### Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Gasoline, motor fuel	86290-81-5	No	DSL	EINECS
Toluene	108-88-3	Yes	DSL	EINECS
Butane	106-97-8	Yes	DSL	EINECS
Xylenes (o-, m-, p- isomers)	1330-20-7	Yes	DSL	EINECS
Benzene, 1,2,4-trimethyl-	95-63-6	Yes	DSL	EINECS
Ethyl alcohol	64-17-5	Yes	DSL	EINECS
Ethylbenzene	100-41-4	Yes	DSL	EINECS
Benzene	71-43-2	Yes	DSL	EINECS
Hexane	110-54-3	Yes	DSL	EINECS

## \*\*\* Section 16 - Other Information \*\*\*

### NFPA® Hazard Rating

Health	2
Fire	3
Reactivity	0



### HMIS® Hazard Rating

Health	2	Moderate
Fire	3	Serious
Physical	0	Minimal
		*Chronic

### Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

### Literature References

None

# Safety Data Sheet

Material Name: Gasoline All Grades

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## Other Information

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

End of Sheet

# SAFETY DATA SHEET

## LIQUITEX PROFESSIONAL SPRAY PAINT

According to Appendix D, OSHA Hazard Communication Standard 29 CFR §1910.1200

### 1. Identification

#### Product identifier

**Product name** LIQUITEX PROFESSIONAL SPRAY PAINT

#### Recommended use of the chemical and restrictions on use

**Application** Fine Art Painting

#### Details of the supplier of the safety data sheet

**Supplier** ColArt Americas Inc.  
11 Constitution Avenue  
Piscataway  
New Jersey 08855 - 1396  
USA  
1-732-562-0770  
R.Enquiries@colart.co.uk

**Contact Person** Regulatory Manager

**Manufacturer**

#### Emergency telephone number

**Emergency telephone** For health information only call 1-800-628-3385 Piscataway NJ 08855.

### 2. Hazard(s) identification

#### Classification of the substance or mixture

**Physical hazards** Aerosol 2 - H223, H229

**Health hazards** Eye Irrit. 2A - H319

**Environmental hazards** Not Classified

#### Label elements

##### Pictogram



**Signal word** Warning

**Hazard statements** H223 Flammable aerosol.

H229 Pressurized container: may burst if heated.

H319 Causes serious eye irritation.

**Precautionary statements** P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.

P211 Do not spray on an open flame or other ignition source.

P251 Do not pierce or burn, even after use.

P264 Wash contaminated skin thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337+P313 If eye irritation persists: Get medical advice/attention.

P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.

## LIQUITEX PROFESSIONAL SPRAY PAINT

### 3. Composition/information on ingredients

#### Mixtures

<b>Ethyl Alcohol</b>	<b>10-30%</b>
CAS number: 64-17-5	REACH registration number: 01-2119457610-43-XXXX
<b>Classification</b>	
Flam. Liq. 2 - H225	
Eye Irrit. 2A - H319	
<b>ACETONE</b>	<b>1-5%</b>
CAS number: 67-64-1	REACH registration number: 01-2119471330-49-XXXX
<b>Classification</b>	
Flam. Liq. 2 - H225	
Eye Irrit. 2 - H319	
STOT SE 3 - H336	
<b>METHANOL</b>	<b>&lt;1%</b>
CAS number: 67-56-1	REACH registration number: 01-2119433307-44-XXXX
<b>Classification</b>	
Flam. Liq. 2 - H225	
Acute Tox. 3 - H301	
Acute Tox. 3 - H311	
Acute Tox. 3 - H331	

The Full Text for all Hazard Statements are Displayed in Section 16.

**Composition comments** Ethyl Alcohol has a specific Concentration limit of >50% for causes serious eye irritation (H319). Therefore this classification is not applied to the product.-

### 4. First-aid measures

#### Description of first aid measures

<b>General information</b>	Move affected person to fresh air at once.
<b>Inhalation</b>	Keep affected person away from heat, sparks and flames. Move affected person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Keep affected person warm and at rest. Get medical attention immediately.
<b>Ingestion</b>	Rinse mouth thoroughly with water. Do not induce vomiting. Get medical attention.
<b>Skin Contact</b>	Wash skin thoroughly with soap and water. Remove contaminated clothing. Get medical attention if any discomfort continues.
<b>Eye contact</b>	If liquid has entered the eyes, proceed as follows. Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes and get medical attention.

## LIQUITEX PROFESSIONAL SPRAY PAINT

### 5. Fire-fighting measures

#### Extinguishing media

**Suitable extinguishing media** Extinguish with the following media: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

#### Special hazards arising from the substance or mixture

**Specific hazards** Containers can burst violently or explode when heated, due to excessive pressure build-up. FLAMMABLE. May explode when heated or when exposed to flames or sparks.

#### Advice for firefighters

**Protective actions during firefighting** Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse vapors.

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Provide adequate ventilation. Avoid inhalation of vapors. Use suitable respiratory protection if ventilation is inadequate.

#### Environmental precautions

**Environmental precautions** Do not discharge into drains or watercourses or onto the ground. Contain spillage with sand, earth or other suitable non-combustible material.

#### Methods and material for containment and cleaning up

**Methods for cleaning up** Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Eliminate all sources of ignition. No smoking, sparks, flames or other sources of ignition near spillage. Provide adequate ventilation. Leave small quantities to evaporate, if safe to do so. Do not allow material to enter confined spaces, due to the risk of explosion.

### 7. Handling and storage

#### Precautions for safe handling

**Usage precautions** Keep away from heat, sparks and open flame. Avoid inhalation of vapours and spray mists. Provide adequate ventilation. Avoid inhalation of vapors. Use approved respirator if air contamination is above an acceptable level. Eliminate all sources of ignition.

#### Conditions for safe storage, including any incompatibilities

**Storage precautions** Keep away from heat, sparks and open flame. Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C. Store at moderate temperatures in dry, well ventilated area.

#### Specific end uses(s)

**Specific end use(s)** The identified uses for this product are detailed in Section 1.2.

### 8. Exposure Controls/personal protection

#### Control parameters

#### Occupational exposure limits

##### **Ethyl Alcohol**

Long-term exposure limit (8-hour TWA): OSHA 1000 ppm 1900 mg/m<sup>3</sup>

Short-term exposure limit (15-minute): ACGIH 1000 ppm 1880 mg/m<sup>3</sup>

A3

OSHA = Occupational Safety and Health Administration.

## LIQUITEX PROFESSIONAL SPRAY PAINT

ACGIH = American Conference of Governmental Industrial Hygienists.  
 A3 = Confirmed Animal Carcinogen with Unknown Relevance to Humans.

### Exposure controls

#### Protective equipment



#### Appropriate engineering controls

Provide adequate ventilation. Avoid inhalation of vapors and spray/mists. Observe any occupational exposure limits for the product or ingredients.

#### Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. The following protection should be worn: Chemical splash goggles.

#### Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible.

#### Other skin and body protection

Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

#### Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

#### Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn.

### **9. Physical and Chemical Properties**

#### Information on basic physical and chemical properties

**Appearance** Aerosol.

**Color** Various colors.

**Odor** Organic solvents.

**Flash point** <40°C

**Upper/lower flammability or explosive limits** : 1.8

**Other flammability** Aerosol ignition distance: 30 cm

**Auto-ignition temperature** > 400°C

**Comments** Information given is applicable to the major ingredient.

**Other information** Not available.

### **10. Stability and reactivity**

**Stability** Avoid the following conditions: Heat, sparks, flames.

**Conditions to avoid** Avoid heat, flames and other sources of ignition. Avoid exposing aerosol containers to high temperatures or direct sunlight.

**Hazardous decomposition products** Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of carbon. Oxides of nitrogen.

### **11. Toxicological information**

## LIQUITEX PROFESSIONAL SPRAY PAINT

### Information on toxicological effects

#### Acute toxicity - oral

ATE oral (mg/kg) 18,993.35

#### Acute toxicity - dermal

Notes (dermal LD<sub>50</sub>) Not determined.

ATE dermal (mg/kg) 56,980.06

#### Acute toxicity - inhalation

Notes (inhalation LC<sub>50</sub>) Not determined.

ATE inhalation (vapours mg/l) 569.8

<b>Inhalation</b>	Vapors in high concentrations are narcotic. Symptoms following overexposure may include the following: Headache. Fatigue. Dizziness. Nausea, vomiting.
<b>Skin Contact</b>	Skin irritation should not occur when used as recommended. Repeated exposure may cause skin dryness or cracking.
<b>Eye contact</b>	Vapor or spray in the eyes may cause irritation and smarting.
<b>Acute and chronic health hazards</b>	Prolonged and repeated contact with solvents over a long period may lead to permanent health problems. Prolonged or repeated exposure to vapors in high concentrations may cause the following adverse effects: Nausea, vomiting. Headache. Gas or vapor in high concentrations may irritate the respiratory system.
<b>Route of entry</b>	Inhalation
<b>Target Organs</b>	Central nervous system Respiratory system, lungs
<b>Medical Symptoms</b>	Symptoms following overexposure may include the following: Headache. Dizziness. Arrhythmia, (deviation from normal heart beat).

### **12. Ecological Information**

**Ecotoxicity** There are no data on the ecotoxicity of this product.

#### Toxicity

**Acute toxicity - fish** Not determined.

**Acute toxicity - aquatic invertebrates** Not determined.

**Acute toxicity - aquatic plants** Not determined.

**Acute toxicity - microorganisms** Not determined.

#### Persistence and degradability

**Persistence and degradability** The degradability of the product is not known.

#### Mobility in soil

**Mobility** Highly volatile and will rapidly evaporate to the air

### **13. Disposal considerations**

#### Waste treatment methods

**General information** Do not puncture or incinerate even when empty.

## LIQUITEX PROFESSIONAL SPRAY PAINT

<b>Disposal methods</b>	Empty containers must not be punctured or incinerated because of the risk of an explosion. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
<b>Waste class</b>	08 01 11* - waste paint and varnish containing organic solvents or other dangerous substances

### 14. Transport information

#### UN Number

UN No. (DOT) 1950

UN No. (IMDG) 1950

UN No. (ICAO) 1950

#### UN proper shipping name

Proper shipping name (DOT) AEROSOLS, FLAMMABLE

Proper shipping name (IMDG) AEROSOLS, FLAMMABLE

Proper shipping name (ICAO) AEROSOLS, FLAMMABLE

#### Transport hazard class(es)

IMDG Class 2.1

ICAO class/division 2.1

#### Transport labels



#### Packing group

Not applicable.

#### Environmental hazards

Environmentally Hazardous Substance

No.

### 15. Regulatory information

## LIQUITEX PROFESSIONAL SPRAY PAINT

### Regulatory Status

This product has been evaluated by a toxicologist and labelled for acute and chronic health hazards in accordance with the Labelling of Hazardous Art Materials Regulation and Federal Regulation 16 CFR 1500.14 of the Federal Hazardous Substances Act. This product conforms to ASTM D-4236 Standard Practice for Labelling Art Materials for Chronic Adverse health effects.

This product has been certified by ACMI (Artists Craft Material Institute, Inc.) to carry the CL (Cautionary Labelling) Seal, meaning the following warnings and safe use instructions should be observed.

**WARNING:FLAMMABLE. VAPOR HARMFUL.**

Contains: DIMETHYL ETHER

**PRECAUTIONS:**Do not store or use near heat or flame. Use only with adequate ventilation.

KEEP OUT OF REACH OF

CHILDREN.

**FIRST AID TREATMENT:**If inhalation symptoms occur, move to fresh air. If symptoms persist, see a physician.

For further health information contact a poison control center or call 1-800-628-3385  
Piscataway NJ 08855.

**WARNING: CONTENTS UNDER PRESSURE.**

Do not puncture or incinerate or expose to temperatures above 120o F (50o C).

KEEP OUT OF REACH OF CHILDREN.

### 16. Other information

<b>Revision date</b>	7/28/2015
<b>Revision</b>	9
<b>Supersedes date</b>	6/18/2015
<b>Hazard statements in full</b>	H223 Flammable aerosol. H229 Pressurized container: may burst if heated. H319 Causes serious eye irritation.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.

**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**ATTACHMENT 2  
Resumes of Key Personnel**

## S UXOS– John Stine; KEMRON Environmental Services, Inc.

<b>Education</b>	<ul style="list-style-type: none"><li>❖ United States Air Force, Munitions Maintenance Specialist, 1971</li><li>❖ U.S. Naval Explosive Ordnance Disposal School, Munitions Disposal Specialist, 1976</li><li>❖ Senior NCO Academy, 1989</li></ul>
<b>Registrations/Certifications</b>	<ul style="list-style-type: none"><li>❖ Corp of Engineers UXO # 0539</li><li>❖ HAZWOPER 40 Hour, 2000 with periodic refresher courses</li></ul>
<b>Special Qualifications and Training Relevant to the Proposed Project</b>	<ul style="list-style-type: none"><li>❖ Munitions Specialist Training, 1971</li><li>❖ NAVSEA Technical Instructors Course, 1979</li><li>❖ NATO QA/QC Evaluator/Inspector/Trainer, 1982-1985</li><li>❖ DDESB TP-18 Qualified, 39 years EOD experience</li><li>❖ Master EOD Technician</li><li>❖ Master EOD Training Instructor, USAF</li><li>❖ Quality Assurance/Quality Control (QA/QC) Officer, Unit Level, USAF</li><li>❖ QA/QC Manager, ACC Command Level, EOD, HQ USAF</li></ul>

### Experience Record

Mr. Stine is a qualified Program Manager and QA/QC Manager who has more than 39 years of relevant UXO/MEC experience. Mr. Stine has more than 32 years of supervisory experience and has substantial experience coordinating the lifecycle of MMR response and range clearance activities. He has exceptional skills managing, planning and directing site explosives operations and personnel. Mr. Stine has developed numerous munitions response, safety plans, and developed and implemented MEC-specific sections of the Quality Control Program Plan (QCPP) for explosive related operations. Mr. Stine also possesses the abilities to fully perform all the duties and responsibilities of the UXOSP, UXOTI, UXOTII, UXOTIII, and the SUXOS. He reviews data and compiles reports for senior management or client, conducts quality assurance audits, conducts quality control audits, and conducts accident/incident investigations. He serves as the Range Services & Salvage Program Manager of the company. While employed with a former company he served as the Quality and Safety Manager. Selected relevant experience includes:

**Program Manager. Range Residue and Accumulation Point (RRAP) and UXO Recovery and Disposal Operations, White Sands Missile Range (WSMR), NM.** Mr. Stine was responsible for the operation, management, and quality control of a long term contract at WSMR for the recovery, inspection, certification, and disposal of explosive contaminated target and test debris generated from the test range at WSMR. Incorporated in these duties was quality oversight for UXO support, recovery, and disposal of munitions and munitions components associated with a wide variety of test projects conducted at WSMR. All project material required inspection, certification, documentation, and disposal whether by detonation or through salvage efforts. 2001 – 2011.

**Quality Manager. Range Residue Removal/MEC Treatment, Range 69, Fort Bragg, North Carolina.** Mr. Stine provided oversight for program quality control, directed the Project Manager, and approved work plans/reports. He inspected and approved management of personnel, materials, transportation, supplies, and equipment for range debris removal, MEC inspection and identification for Range 69. He approved the plan to process associated scrap. 2007 to 2008.

**Project Manager. Processing and Removal of Range Residue and Range Clearance Ranges, Camp Lejeune, North Carolina.** Mr. Stine approved work and safety plan for the project. He developed and implemented the MEC-specific sections of the work and safety plan, and the plan to direct UXO removal and support, including associated investigative work and target demolition. He worked with the Project Manager to plan and complete the demilitarization and salvage of recoverable metal and disposal of hazardous waste, as well as clearing and grubbing to allow surface/subsurface clearance operations. Mr. Stine was responsible for identifying, documenting, reporting

and ensuring the completion of corrective actions to ensure all explosive operations were in compliance with requirements. September 2004 to March 2005.

**Program Manager. Ordnance Removal and Support, Range 33, Fort AP Hill, Virginia.** Mr. Stine directed activities and UXO operations, identified personnel and equipment requirements, developed on-site Standard Operating Procedures, and insured the implementation of the QCPP. He reviewed the Project Manager's work and safety plans. John communicated with the client, reviewed site conditions and project reports, and identified efforts to accomplish the SOW. April 2004 to September 2005.

**Project/LOADS Manager. Ordnance Demilitarization, Kahoolawe, Hawaii.** Mr. Stine was responsible for personnel that identified, removed, and disposed of UXO material. He managed the Lightweight Ordnance and Armaments Demilitarization System (LOADS) to demilitarize over 1,300,000 pounds of Munitions Debris for recycling. This included re-inspection of all material delivered to the work site to insure no MEC was placed into the machine. John approved the removal planning of items found that were segregated and turned over to the demolition crews for disposal. He reviewed the plan for the storage and transportation of explosives and insured the implementation of the Quality Control Plan to insure no explosive item was shipped for salvage. In addition, he participated in historic record review as UXB identified archaeological, cultural, religious, and historical sites. 2001 to 2005.

## **DANIEL BURNETT, PG, PMP** **PROJECT MANAGER**

Mr. Burnett is a Project Manager with 15 years of experience in environmental assessment, design and remediation. He has extensive experience planning and implementing environmental remediation projects under the guidance of federal and state regulatory requirements. Mr. Burnett has managed, and filled key roles for, fixed price federal munitions response and environmental remediation projects. Mr. Burnett has prepared numerous project planning and regulatory reporting documents in compliance with CERCLA and RCRA guidelines. Additionally, Mr. Burnett is experienced in property transaction due diligence and soil classification.

### **Education**

MS, Geology, Georgia State University, 2009  
BS, Forest Environmental Resources, University of Georgia, 2001

### **Registrations / Certifications / Training**

- Project Management Professional
- Georgia Registered Professional Geologist (PG2028)
- Florida Registered Professional Geologist (PG2725)
- Georgia DHR Certified Soil Classifier (DCSC199)
- 40 – Hour Hazardous Waste Workers Training Course, (29 CFR 1910.120); Annual Refresher 2015
- CPR/First Aid Certified

Mr. Burnett has extensive experience in the collection, processing and management of spatial data generated during geophysical and environmental investigations utilizing Trimble GPS equipment, ArcMap® and Microsoft Access®. He is also skilled in AutoCAD and Visual Sampling Plan (VSP).

### **SELECTED PROJECT EXPERIENCE**

**Project Manager:** Remedial Action at Osborne Pond, Former Camp Edwards, Barnstable County, Massachusetts, September 2014 to August 2016: As Project Manager for this munitions response fixed price project, Mr. Burnett is responsible for all aspects of this project, including budget management, project planning document preparation, coordination with stakeholders, and executing the Remedial Action. This position requires extensive communication and negotiation with the client and regulatory agencies.

**Project Manager/Senior Scientist:** Remedial Investigation/Feasibility Study at the Former Camp Gordon Johnston, Carrabelle, Florida, September 2012 to present: As Assistant Project Manager for this fixed price project, Mr. Burnett conducted project planning and execution of the field investigation to determine the nature and extent of munitions and munitions constituents at 13 former training ranges throughout the former Camp. Mr. Burnett managed the 2015 field investigation including coordinating right-of-entry with the landowner, assembling a UXO field team and scheduling field activities. Additionally, Mr. Burnett has prepared the Remedial Investigation/Feasibility Study report and managed the Access and GIS databases in accordance with U.S. Army Corps of Engineers (USACE) requirements. Mr. Burnett provided technical support for Technical Project Planning (TPP) meetings. As the Senior Scientist, Mr. Burnett executed the sampling and analysis plan to characterize the potential soil and groundwater contamination at each of the ranges where munitions were found.

**Project Geologist/Site Manager:** Remedial Investigation/Feasibility Study at Joint Base Langley-Eustis (Fort Eustis), Newport News, Virginia, June 2012 through September 2012: As Site Manager, Mr. Burnett coordinated the soil and sediment sampling of the Skeet Range MRS located along the Warwick River at Fort Eustis. He used GIS to accurately locate existing and proposed sampling locations at the request of the USACE Baltimore. Mr. Burnett coordinated with USACE personnel onsite to ensure the quality of the data collected was representative of the conditions within the MRS.

**Project Manager:** US Army, Fort Buchanan, Bayamon, Puerto Rico, April 2016 to present: The project includes six sites at the installation including the Northwest Boundary Area (NWBA) groundwater TCE plume, Pesticide Burial Trench, Spent Solvent Storage Area (Building 556), Used Oil Storage Area (Building 556), Heavy Equipment Storage Area (Building 556) and an Inactive Waste Disposal Area (Debris Landfill). Mr. Burnett is responsible for corrective measures implementation at the NWBA TCE site to include bio-augmentation and enhanced reductive dechlorination, a vapor intrusion study, and long term monitoring after remedy implementation.

**Project Geologist/Site Manager:** Remedial Action at Joint Base Langley-Eustis, Newport News, Virginia, April 2012 through June 2012: Mr. Burnett provided site management for a soil removal, backfilling, and stream restoration project for several Solid Waste Management Units (SWMU). Site responsibilities included implementing the Environmental Protection Plan (EPP), Erosion and Sediment Control Plan (ESCP), and Health and Safety Plan (HASP). Mr. Burnett also conducted pre-remedial sampling according to the Quality Assurance Project Plan (QAPP). In a separate mobilization, he provided site management for the dredging and capping of PCB contaminated sediments of Eustis Lake and the tidally influenced Bailey Creek. Mr. Burnett assisted with the implementation and design of the water treatment system to improve efficiency during the dredging operation. Mr. Burnett assisted in the preparation of the Remedial Action Completion Report (RACR) for the Eustis Lake and an Interim RACR for Bailey Creek.

**Project Geologist:** Wolverine Tube, Ardmore, Tennessee, July 2011 through October 2012: Mr. Burnett managed and conducted quarterly groundwater sampling events for this Superfund site. Field responsibilities included sampling event planning, water level gauging, low-flow contaminant sampling and assisting in the maintenance of the dual-phase vapor extraction (DVE) system. Mr. Burnett was responsible for writing quarterly reports which included creating water level contour maps and contaminant plume maps.

**Project Geologist:** Lockheed Martin, Marietta, Georgia, 2012: Mr. Burnett was in charge of locating previous soil sampling locations for confirmation soil sampling using GPS technology for a former fuel farm SWMU at this restricted access facility. He also collected groundwater samples from existing wells using low-flow methods and assisted in the sampling and description of soil cores collected using direct push technology (DPT).

**Project Geologist:** Ingersoll Rand, Honea Path, South Carolina; Union, South Carolina; and Sylvania, Georgia, July 2011 through October 2012: Mr. Burnett coordinated and conducted semi-annual sampling events at these RCRA facilities. Field responsibilities included water level gauging and groundwater sampling. He also assisted in the maintenance of onsite air strippers and installation of a dual-phase extraction system. He also performed quality assurance for figures and tables for the annual reports submitted to SCDEC and GAEPD.

**Project Geologist:** Aramark, Thomasville, Georgia, July 2011 through October 2012: Mr. Burnett conducted semi-annual groundwater sampling and reporting for this RCRA facility. Mr. Burnett implemented the sampling and analysis plan for this site. As a cost cutting measure, Mr. Burnett assisted in preparing data to present to the GAEPD to reduce the number of wells to be sampled during each semi-annual sampling event.

**GIS Analyst:** Georgia Power, Atlanta, Georgia, October 2009 through June 2010: Mr. Burnett was specifically hired by Georgia Power to integrate the transmission GIS program with a new GIS based program created for the Forestry and Right-of-Way Department. Using ArcMap, Mr. Burnett was instrumental in grouping transmission line segments into vegetation management units for all of the transmission power lines in Georgia. He also assisted in the training of the Southern Company transmission foresters in several training sessions in Georgia, Alabama and Florida.

**Geologist:** Geophysical Investigations, Private Clients, Georgia, North Carolina and Virginia, 2007 through 2009: Mr. Burnett performed geophysical investigations using magnetic, very low frequency (VLF) wave detection and resistivity methods to locate fracture zones within the bedrock where high municipal wells could potentially be located. He also performed pump testing on several test wells and assisted in the drilling of a high-yield artesian municipal well.

**Soil Scientist:** Soil Investigations, Georgia, 2005 through 2009: As a Georgia Department of Human Resources Certified Soil Classifier, Mr. Burnett founded a business that conducted numerous soil investigations throughout Georgia for the installation of onsite sewage management systems.

**Project Manager/Scientist:** Watershed Assessment Studies, Leesburg, McRae, and Pearson, Georgia, 2001 through 2007: Mr. Burnett was the Project Manager for watershed studies for the cities of Leesburg, McRae, and Pearson, Georgia. The goal of the projects was to determine the background water quality conditions of area streams in order for the cities to increase their wastewater treatment plant outfall rates. Mr. Burnett chose surface water sample locations and sampled the streams within each of the study areas during normal flow and after significant rainfall events. Mr. Burnett wrote a comprehensive report of the water quality conditions for each city. These reports were submitted to the GEPD Watershed Protection Branch.

**Project Manager/Geologist:** Phase I and II Environmental Site Assessments (ESAs), 2001 through 2012: Mr. Burnett has managed and conducted numerous Phase I ESAs for potential real estate transactions including sites in Georgia, Texas and Virginia. Clients include real estate law firms, potential buyers, property owners, and the Hyatt Corporation. Mr. Burnett has conducted Phase II ESAs in Georgia and South Carolina.

**Steve Fess, CIH, CSP**  
*Corporate Health and Safety Officer*

<b>Education</b>	BS, Health Science (Safety/Environmental) S.U.N.Y. College at Brockport, 1995 AAS, Medical Laboratory Technology, Monroe Community College, 1976
<b>Registrations / Certifications</b>	Certified Industrial Hygienist ABIH - Reg. # 5926 CP 1993 Certified Safety Professional BCSP - Reg. # 9151 CP 1989 Additional Training: 40-Hour 1910.120 Health and Safety Training Course and annual refresher courses 40-Hour Hazardous Materials Incident Response; Laboratory Safety and Health; ISO 14001 Lead Auditor; ISO 9001 Internal Auditor.
<b>Summary of Capabilities</b>	
<ul style="list-style-type: none"><li>★ Certified Industrial Hygienist (CIH) in Comprehensive Practice with 20 consecutive years of environmental services and remediation experience</li><li>★ Certified Safety Professional (CSP) in Comprehensive Practice</li><li>★ Extensive experience in regulatory compliance, including Hazardous Waste Management, RCRA, CERCLA, SARA Title III, site investigation and data analysis/ results interpretation, emergency preparedness and response, and community outreach programs</li></ul>	

Mr. Fess is KEMRON's Corporate Certified Safety Professional and Certified Industrial Hygienist with over 35 years of experience in health and safety management and over 20 years of experience with site remediation activities. He has been responsible for developing and instructing courses in all aspects of OSHA construction and general industry regulations, HAZWOPER initial and refresher classes, emergency response, hazardous and solid waste management, IH air monitoring instrumentation and use, and environmental instrumentation. In addition, Mr. Fess has provided health and safety services to numerous clients on site and

program-specific projects. As the Corporate H&S Manager, his responsibilities include updating and authoring new health and safety standards in the KEMRON Corporate Health and Safety Manual (which is fully compliant with USACE Engineering Manual (EM) 385-1); reviewing and approving APPs and SSHPs; training personnel in OSHA standards including HAZWOPER, Hazard Communication, Respiratory Protection, PPE selection and use, Confined Spaces, Lockout/Tagout (Control of Hazardous Energy), and Health & Safety auditing activities. Mr. Fess has worked as a private consultant to the regulated community providing industrial, construction, and environmental clients with safety, health and environmental compliance audits safety program development and developing OSHA compliant programs and documentation. He administered the program for and coordinated all lab-pack hazardous waste collection, packaging, manifesting, and disposal activities for a Fortune 100 corporation. He has also authored site Health & Safety Plans (HASP) for groundwater and soil remediation projects and audited HASP documents submitted by site contractors at industrial and commercial remediation sites.

### **Selected Project / Program Experience**

**Safety and Health Manager.** Joint Base Langley-Eustis, VA. Ensured that all site activities were performed according to the approved APP/SSHP. Managed safety during the implementation of the environmental remediation for 13 sites at Fort Eustis, Virginia to include seven Installation Restoration Program (IRP) sites and six Military Munitions Response Program (MMRP) sites.

**Safety and Health Manager.** Radford Army Ammunition Plant, VA. Responsible for development and approval of project SSHPs

as well as evaluation and selection of task specific sub-contractors to perform project work. Ensure activities are completed in the proper PPE. This PBC Task Order is for the environmental remediation of three sites at Radford Army Ammunition Plant. This environmental work is being conducted under the IRP and includes excavation of an approximately 80-foot-long section of a drainage swale down to a depth of 15 feet and then backfill with pre-sampled clean soil as well as sealing existing pipes that will not be excavated, monitoring well installation and development and long-term monitoring.

**Health & Safety Manager / Certified Industrial Hygienist.** Emergency and Rapid Response Services Contract, USEPA Regions 2 and 3. Final review and approval of Site Specific HASPs; verify proper PPE is specified, provide consultation to air monitoring programs. Audited individual sites, assisted in preparing Corrective Action Plans, and ensured Corrective Action is completed. KEMRON holds an ERRS contract with EPA Region 2 and 3 for planned and emergency response services within New York, New Jersey, Virginia, West Virginia, Delaware, Pennsylvania, Maryland and Puerto Rico.

**Safety and Health Manager.** Deseret (Tooele) Weapons Depot, UT. Wrote numerous AHAs and updated APP requirements for efforts to achieve Response Complete for this MRS. Included removal of all Discarded Military Munitions (DMM), other military related devices and debris in the SWMU, conducted confirmatory sampling and analysis from the bottom of the burial area and soil piles, as needed, and removal of contaminated soil.

**Safety and Health Manager.** Fort Ord, CA. Managed Removal and Soil Remediation activities including prescribed burning in a

former artillery impact area, vegetation clearance, boundary surveys, geophysical surveys, surface and subsurface MEC removal, sifting operations, road improvements, soil replacement and other activities.

**Safety and Health Manager.** Marlette Plating Facility, NY. Managed safety for this task to secure the site, inventory, stage, and secure vats/drums/containers containing known and unknown chemicals in preparation for disposal activities, collect samples for hazard categorization and lab analysis and oversee final disposal of all wastes. Updated HASP for naturally occurring radioactive material (NORM) materials and procedures/training. Designed air monitoring program and established PPE requirements to include RAD safety, chemical safety and respiratory protection program.

**Safety and Health Manager.** Osborne Pond, Former Camp Edwards, Barnstable County, MA (Cape Cod). The Osborne Pond Remedial Action Project was to remove any munitions-related items from the designated area surrounding Osborne Pond and perform surface clearance (surface to three inches below ground surface) in the picnic areas, walking paths and other areas where there is limited vegetation that might be frequented or accessible by recreational visitors. MEC discovered during the remedial action was disposed of appropriately, as well as soils impacted by MC.

**Safety and Health Manager.** Camp Siebert Known-Distance Range, Attalla, AL. Remedial action objective was to prevent direct contact with lead in surface soil at concentrations that could pose unacceptable risk to a resident child or small mammal. Soils required excavation and proper disposal due to exceeding the approved project lead remediation goal of 900 mg/kg. The subject

site was being restored following characterization and removal activities to prevent erosion and promote reforestation of disturbed areas.

**IRP Health and Safety Manager.** Fort Jackson, SC. Project included a multiple award for Environmental Remediation Services (ERS) including chemical contamination remediation and soil removal/ restoration encompassing twenty-one (21) remediation sites – six (6) sites under the IRP and the other fifteen (15) under the MMRP.

**Health and Safety Manager.** Fort Buchanan, San Juan, PR. Project included a bioremediation approach to eliminate groundwater contamination, the addition of two barrier walls and the installation of eight injection wells in the source area to treat the dissolved plume.

**LELAND J. MEADOWS, ASP, CHMM, CSP**

Current Job Title:	Assistant Corp H/S Manager
Proposed Position:	Corporate Safety and Quality Manager
Employment Status:	Current Employee, KEMRON
Dates and Company Name for Experience: <i>(Dates, Company, Position)</i>	<ul style="list-style-type: none"><li>• 2013-Present Safety and QC Manager, KEMRON</li><li>• 2012-2013 Response Manager/Chemist, Environmental Restoration</li><li>• 2009-2012 Sr. Project Chemist, Tetra Tech</li><li>• 2005-2009 Sr. Project Chemist, OTIE</li><li>• 2003-2005 Lab Safety Manager, ASI</li><li>• 2002-2003 Env. Scientist, KEMRON</li><li>• 2002 Lab Technician, CTC</li></ul>
Education: <i>(Degree, Year, Specialization)</i>	<ul style="list-style-type: none"><li>• BS, Chemistry and Mathematics, Alabama Agricultural &amp; Mechanical University 2001</li><li>• Safety &amp; Health Program Management Certificate, GA Tech University, 2014</li></ul>
Active Registration:	<ul style="list-style-type: none"><li>• Certified Hazardous Materials Manager (CHMM) – #15985, 2012</li><li>• OPSEC Level II Coordinator, 2014</li><li>• Associate Safety Professional (ASP) – #23923, 2015</li><li>• Certified Safety Professional (CSP) - #31840, 2016</li></ul>

Mr. Meadows is a Chemist with more than 13 years' experience with health and safety management and quality process improvement in CAA, CWA DOT, CERCLA DOT, OSHA RCRA, SARA, SWDA, TSCA, and UST related project completion. He provides technical QC and safety support and information to all personnel; provides operational and technical expertise in environmental emergency response, assessment, remediation, removal, operation-maintenance, geotechnical and treatability analysis activities; prepares written safety, health and quality programs, policies and SOPs; develops and coordinate Company safety and quality training programs; supports office, field and laboratory personnel in selection of appropriate personal protective equipment; audits safety and quality practices and documentation of operations to ensure compliance with company programs and federal, state, and local occupational safety and health regulations and environmental compliance.

Mr. Meadows maintains the KEMRON Environmental Services, Inc. (KEMRON) Corporate Health and Safety Manual and the effectiveness of programs and activities supporting operations. He is well versed in OSHA General Industry (CFR 1910); Construction Safety (CFR 1926); Hazardous Waste Operations (CFR 1910.120); and EM-385-1-1 operations supported by federal, state, tribal and local governments. Mr. Meadows develops, reviews, and approves site-specific health and safety plans, SOPs, and Activity Hazard Analyses (AHAs). Mr. Meadows performs safety and quality training throughout KEMRON. Mr. Meadows also manages incident, accident, and near-miss in an effort to reduce EMR and DART rates.

Mr. Meadows provides daily corporate review of quality assurance and quality control measures for environmental and construction project work. Mr. Meadows reviews, implements and ensures the 3-Phase Quality Control (preparatory, initial, and follow-up) are adhered to and that corrective measures are implemented in a timely and efficient manner. He communicates regularly with on-site field staff in an effort to improve safety and quality of definable features of work (DFW) and performs routine audit of policies and procedures.

Mr. Meadows ensures that Construction projects are properly scheduled; that adequate personnel and equipment are available; and that resources are available for procurement of services and training. He reviews project scope and data quality objectives against plans and deliverables including As-Built records, to ensure compliance.

Mr. Meadows maintains KEMRON's Corporate Quality Management Plan (QMP) and the effectiveness of systems and activities supporting operations. He is well versed in the Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPPs) supported by EPA, DoD, and DoE along with EPA QA/R-5 and Sampling and Analysis Plans (SAPs).

## **MULTIMEDIA ANALYSIS AND VALIDATION:**

### **AIR**

Mr. Meadows has performed air monitoring and sampling at various project locations throughout the United States. He is familiar with monitoring equipment including particulate analyzers for detection of respirable dust (PM 2.5 and PM 10). Mr. Meadows has established site-specific action levels for respirable particulates based on hazardous concentrations of asbestos fibers, heavy metals, silica, radiation, and munition activities. Mr. Meadows has also performed perimeter and industrial hygiene monitoring for site personnel using selective sampling media and apparatus.

Mr. Meadows has performed air monitoring for hazardous vapors including mercury, volatile organic compounds and inorganic compounds using photoionization (PID) and flame ionization detectors (FIDs), and colorimetric tubes. Mr. Meadows is familiar with EPA collection, preservative, sampling, and analysis protocols including the use SW-846 methods.

### **SOIL/WASTE**

Mr. Meadows has performed screening of heavy metals in soil using X-ray Florescence (XRF) analyzers, PCBs in soil using Clor-N-Oil kits, dioxin – congener immunoassay, PID and FID analysis; and EPA SW-846 sampling methods. Mr. Meadows has performed multiple treatability studies to evaluate effectiveness of reagents and reduce costs associated with disposition of materials.

### **DRINKING WATER**

Mr. Meadows has performed drinking water assessment and sampling of wells and public systems for chlorinated compounds and heavy metals. Mr. Meadows has also performed analysis of public drinking water at the DeKalb County, Georgia - Scott Candler Plant which served more than 2 million customers from 2003 – 2005.

### **VALIDATION**

Mr. Meadows has performed organic and inorganic validation of soil and water analytical data ranging from cursory review - Stage 2(a) to Stage 4 review of Level IV data packages. He is familiar with the requirements of EPA Contract Laboratory Program (CLP) and National Functional Guidelines (NFGs) for Organic and Inorganic Superfund Methods Data Review.

## **RELEVANT PROJECT EXPERIENCE:**

**Corporate Health, Safety, and Quality Assurance/Control Manager, KEMRON 2015.** Mr. Meadows current provides safety and quality control of a \$60 million CPFF task order to clean up MEC and HTW at the former **Fort Ord Impact Area**. Tasks include clearing vegetation from 1,685 acres; removal of surface MEC from 1,498 acres; removal of subsurface MEC from 114 acres following digital geophysical mapping of 1,815 acres; conducting successful prescribed burns on 577 acres; and removed 974,410 total pounds of munitions debris and range-related debris.

**Corporate Health, Safety, and Quality Assurance/Control Manager, KEMRON 2015.** Mr. Meadows currently provides quality control of MEC and Chemical Warfare Material (CWM) removal actions at **TEAD-S (formerly Deseret Chemical Depot)**. With both MEC and CWM, he also has coordinated the generation of a comprehensive Work Plan that included an APP and SSHP prepared in accordance with EM 385-1-1, a Chemical Safety Submission, an Explosives Safety Submission, MC Sampling and Analysis Plan, a CBRNE Analytical and Remediation Activity Work Plan, and an ECBC Sampling Plan and Air Monitoring Plan.

**Corporate Quality Assurance/Control Manager, KEMRON 2015.** Mr. Meadows has provided quality control of activities at **Cornell-Dubilier** including construction of a remedial asphalt cap.

<b>a. Name/Title</b>	<b>Ralph Brooks</b>
<b>b. Assignment on Contract</b>	Program Manager
<b>c. Name of Firm</b>	KEMRON Environmental Services, Inc.
<b>d. No. of Years:</b>	<b>With this Firm 1 With other Firms 37</b>
<b>e. Education:</b>	BS, General Studies, 2001
<b>f. Active Registration, if any:</b>	Project Management Training – Level 2 Aug/2007 Advanced Munitions Response Site Management Dec/2012 Military Munitions Response Program - 101 Feb/2011 Munitions Response Site Prioritization Protocol Feb/2011 OSHA 1910.120 8-Hour Annual Refresher; Mar/2016 National Safety Council CPR; Feb/2016 National Safety Council First Aide; Feb/2016 Blood borne Pathogens; Feb/2016 Shipping Hazardous Materials Training; Mar/2015 HAZWOPER Supervisor Qualification; May/2004 Asbestos Supervisor Nebraska; 6157; 2003 EPA/AHERA Nebraska Supervisor Initial Course; 7ME05167502NS006; 2003 OSHA 1910.120 40-Hour HAZWOPER; Jan/2002 Awarded the Master EOD Skill Badge; Jun/1987 Explosive Ordnance Disposal Course, Indianhead, MD; Mar/1978 Field Artillery Surveyor Course; May/1976 International Society of Explosives Engineers

**g. Describe Your Specific Experience and Qualifications Relevant to this Contract:**

Mr. Brooks has 38 total years of Explosive Ordnance Disposal/Unexploded Ordnance (EOD/UXO) experience and 14 total years' HTRW environmental remediation experience. He brings management experience under the following federal contracts: Comprehensive Environmental Contract ID/IQ, MMRP ID/IQ and the Comprehensive Long-Term Environmental Action Navy (CLEAN). Projects were conducted under cost plus, firm fixed price and time and materials contracting scenarios. His technical experience includes historical record reviews; Site Inspections; Remedial Investigations, Feasibility Studies, Removal Actions for UXO and HTRW, Site Surveys, Vegetation Removal, MEC Surface Sweeps, Geophysical Surveys, Anomaly Reacquisition, Intrusive Investigation, Trenching, Landfill Removal, Well Installation, MC Investigation/Sampling, Construction Support, Site Restoration, and Long Term Monitoring.

**Program Manager.** US Navy Contracts UXO Support; Naval Weapons Station (NWS) Concord, CA; NWS Fallbrook, CA; NWS Charleston, SC; NWS Earle, NJ; Naval Support Facility Indian Head, MD; Naval Out Lying Field (NOF) Imperial Beach, CA; NOF San Clemente Island, CA; Naval Air Landing Field Cabannis, TX; Naval Air Engineering Center Lakehurst, NJ; Marine Corps Base Quantico, VA; Naval Air Station Brunswick, ME. Provided cost estimate, Work Plan, Quality Control Plan, MEC QAPP, Explosives Safety

Submission, Explosives Site Plan, Accident Prevention Plan, and Health & Safety Plan for UXO Support. Support included UXO escort/avoidance, UXO Construction Support, Target Reacquisition, MEC/Material Potentially Presenting an Explosive Hazard (MPPEH) investigation, and reporting. UXO support total estimate at \$12,750,000. (2005 to 2015)

**Program Manager.** US Army Contracts UXO Support; Fort Wainwright, AK; Fort Greely, AK; Edgewood/Aberdeen Proving Grounds, MD; Weide Army Air Support Facility, Aberdeen, MD; Military Ocean Terminal Concord, CA; Fort Sill, OK; Picatinny Arsenal, NJ. Provided cost estimate, Work Plan, Quality Control Plan, MEC QAPP, Explosives Safety Submission, Explosives Site Plan, Accident Prevention Plan, and Health & Safety Plan for UXO Support. Support included UXO escort/avoidance, UXO Construction Support, Target Reacquisition, MEC/MPPEH investigation, and reporting. UXO support total estimate at \$2,700,000. (2005 to 2015)

**Project Manager.** US Army; Military Ocean Terminal Concord (MOTCO), Concord, CA. Provide cost estimate, Health and Safety Plans, Explosives Safety Submission and Siting Plan, and Work Plans for UXO Support. Support includes UXO escort/avoidance, MEC/MPPEH investigation, removal and treatment to support Site 30 landfill removal, Site 1 landfill cap installation, UST removals, well installations, sediment samplings and other intrusive operations throughout the MOTCO area to include soil and groundwater remediation of hazardous materials. UXO support total estimate at \$500,000. (2009 to 2014)

**Project Manager.** US Army; UXO Construction Support for Southwest Cantonment Area, Fort Sill, OK. Provide cost estimate, Work Plan, Quality Control Plan, Accident Prevention Plan, Health and Safety Plan to the client (OA Systems) for UXO Support. Support includes UXO escort/anomaly avoidance during construction activities at Ft Sill, OK. UXO support total estimate at \$1,300,000. (2008 to 2011)

**Project Manager.** US Army; Drainage Improvements for Gorge Test Area Facility UXO Support; Picatinny Arsenal, NJ. Provide cost estimate, Site Health and Safety Plan, and Work Plan to the Project Manager for UXO support to construction work to improve drainage for the Gorge Test Area Facility. UXO support equals \$63,798. (2005 to 2006)

**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**ATTACHMENT 3  
Training Certificates**



**Naval School  
Explosive Ordnance Disposal**

**Certificate of Completion**

*Presented To*

**USMC**

*For having successfully completed  
the prescribed course of study for*

**ADVANCED EOD MANAGEMENT AND TECHNOLOGY  
(CIN: A-431-0015, 80 HOURS)**

**19 SEPTEMBER 1997**

**CDR, USN**

**Officer**



# Naval School Explosive Ordnance Disposal

## Certificate of Completion

*Presented To*

Sergeant  USMC

For having successfully completed  
the prescribed course of study for

EXPLOSIVE ORDNANCE DISPOSAL PHASE II

22 June 1990

Date

SN

Commanding Officer





*Student Affiliation:*  
Tetra Tech E&I  
33045

10515 E 40th Ave, Suite 116, Denver Colorado 80239      800-711-2706

## *Certificate of Completion*

has successfully completed the requirements for

**40-Hour HAZWOPER**

**29 CFR 1910.120(e)**

Presented

*Friday, August 24, 2007*

**Compliance Solutions Occupational Trainers, Inc.**

*Number:* 7546740



*Vice President*

# Certificate of Completion

*This certifies that*

Has Successfully completed

## 8 Hour HAZWOPER Refresher Training

Refresher certification does NOT necessarily indicate initial 24 or 40 Hour HAZWOPER certification

In Accordance w/Federal OSHA Regulation 29 CFR 1910.120(e) & (p)

And all State OSHA and EPA Regulations As Well

This course (Version 2) is approved for 8 Contact Hours (0.8 CEUs) of continuing education per the California Department of Public Health for Registered Environmental Health Specialist (REHS) issued by Safety Unlimited, Inc. (Accreditation # 044).

1603275164268

Certificate Number

3/27/2016

Issue Date

Training Director



2139 Tapo St., Suite 228 Simi Valley, CA 93063  
888 309-SAFE (7233) or 805 306-8027 866-869-7097 (fax)  
[www.safetyunlimited.com](http://www.safetyunlimited.com)

Proof of initial certification and subsequent refresher training is NOT required to take refresher training  
Want to be sure this certificate is valid? Visit [safetyunlimited.com/verification](http://safetyunlimited.com/verification)

This certifies that



OSHA®  
Training Institute  
Education Centers

Mountain West  
OSHA Education Center

Continuing Education Post Graduate

course entitled

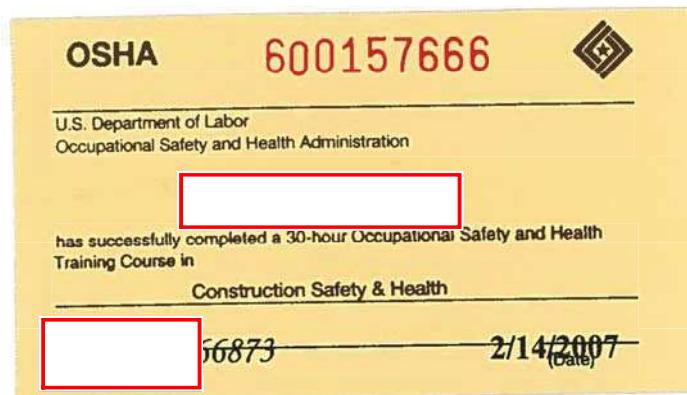
**OSHA 510: Occupational Safety and Health  
Standards for the Construction Industry**  
September 15-18, 2015  
CREDITS: 2.6 CEUs / 4.34 Safety CM Points (ABIH)

UNIVERSITY OF UTAH  
SCHOOL of MEDICINE  
The logo consists of a stylized 'U' with a figure standing on top of it.

Rocky Mountain Center  
for Occupational and  
Environmental Health

University of Utah - RMCOEH

Director, OSHA Directorate of  
Training and Education



**HEARTSAVER FIRST AID CPR AED**

HeartSaver®  
First Aid CPR AED



PEEL  
HERE  
→

This card certifies that the above individual has successfully completed the objectives and skills evaluations in accordance with the curriculum of the AHA HeartSaver First Aid CPR AED Program. Optional completed modules are those **NOT** marked out:

Child CPR AED

Infant CPR

Written test

**3/23/15**

**3/23/17**

Issue Date

Recommended Renewal Date

**HEARTSAVER FIRST AID CPR AED**

Training Center Name **Northwestern Region** ID #

TC Info **Sandy Training Center** ZIP City, State Phone

Course Location **UVU/Mt Nebo Training**

Instructor Name **[Redacted]** Inst. ID #

Holder's Signature

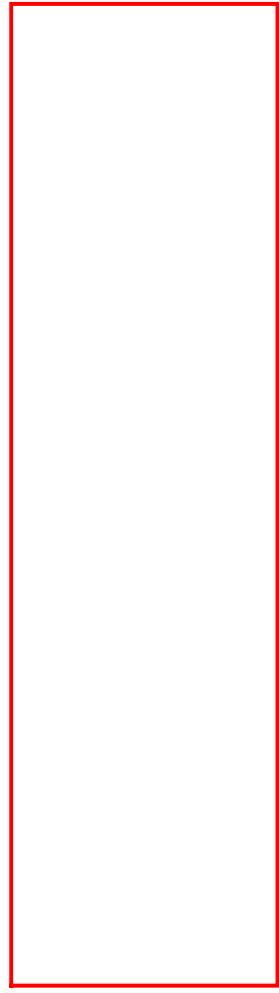
© 2011 American Heart Association Tampering with this card will alter its appearance. 90-1815

Strike through the modules **NOT** completed.

This card contains unique security features to protect against forgery.

90-1815 3/11

This certifies that



**OSHA**  
Training Institute  
Education Centers

Mountain West  
OSHA Education Center



Rocky Mountain Center  
for Occupational and  
Environmental Health

Continuing Education Post Graduate

course entitled

**OSHA 500: Training Course in Occupational Safety  
and Health Standards for the Construction Industry**  
September 22-25, 2015  
CREDITS: 2.6 CEUs / 4.34 Safety CM Points (ABIH)

Director, OSHA Directorate of  
Training and Education

Continuing Education Director  
University of Utah - RMCOEH



**OSHA**

C 0101435

**U.S. Department of Labor**  
**University of Utah - RMCOEH**  
**(801) 581-4055**

This card acknowledges that the recipient has successfully  
completed the required training to be designated as an  
**OSHA Authorized Construction Trainer**

Completion of this course authorizes the trainer to conduct 10- and 30-hour  
Construction Outreach Training Program requirements.

Director, Directorate of Training and Education      Expiration Date 09/25/19

The OSHA Outreach Training Program is a voluntary program through which OSHA authorizes trainers to teach occupational safety and health hazard recognition and prevention in an effort to promote workplace safety and health.

This card identifies the bearer as an authorized Outreach trainer, authorized to conduct outreach courses in accordance with OSHA's Outreach Training Program requirements. The card is not a verification of the bearer's skills, knowledge, or abilities.

To request student cards send the required documentation to your Authorizing Training Organization, which is listed on the front of the card. See the Outreach Training Program Requirements and industry procedures or OSHA Outreach Training Program Web site for specific information on requesting cards.

Trainers must retain Outreach class records for five years. Records must include student sign-in sheets for each class day, student addresses, a topic outline which includes all topics and breaks, and copies of each card issued. OSHA reserves the right to request class records for verification purposes.

**Use or distribution of this card for fraudulent purposes, including false claims of having received training, may result in prosecution under 18 U.S.C. 1001. Potential penalties include substantial criminal fines, imprisonment up to five years, or both.**

For OSHA Outreach Training Program go to "Training" at [www.osha.gov](http://www.osha.gov) Rev. 9/2013

## WORK STATUS REPORT

Employer Copy

**TYPE OF EXAMINATION:** PIKA - Pre-Employment Physical  
**EXAM CLASSIFICATION:** Baseline Examination

### UPDATE

**EMPLOYEE:**   
**ID:**   
**DATE OF EXAM:** 04/28/2016  
**EXPIRATION DATE:** 04/28/2018

**COMPANY:** PIKA International, Inc.  
**POSITION:** UXO Tech III  
**LOCATION:** PIKA-Ft. Wingate  
**SITE:**

The following recommendations are based on a review of one or all of the following: a base history questionnaire, supporting diagnostic tests, physical examination, and the essential functions of the position applied for or occupied by the individual named above.

The following recommendations includes review of the following exam components:

- *Blood Lead/ZPP*
- *Urine Cadmium*
- *Urine Chromium*

	Yes	No	Undecided
Has the employee any detected medical conditions that would increase his/her risk of material health impairment from occupational exposure in accordance with 29 CFR §1910.120 (Hazwoper)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Has the employee any limitations in accordance with 29 CFR §1910.134 (Respirator)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
The examination was conducted in accordance with 29 CFR §1926.62 (Lead)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The examination was conducted in accordance with 29 CFR §1926.1127 (Cadmium)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The examination was conducted in accordance with 29 CFR 1910.1026 (Hexavalent Chromium)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If not a new hire, has a possible occupational Standard Threshold Shift occurred?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

### STATUS

**QUALIFIED** The examination indicates no significant medical condition. Employee can be assigned any work consistent with skills and training.

**QUALIFIED - WITH LIMITATIONS** The examination indicates that a medical condition currently exists that limits work assignments on the following basis:

**NOT QUALIFIED**

**DEFERRED** The examination indicated that additional information is necessary. The employee has been given the following instructions.

### COMMENTS:

I have reviewed the medical data of the above named employee, and informed the employee of the results of the medical examination and any medical conditions that require follow-up examination or treatment.

Name of Physician: Dennis W Stephens, M.D.  Date: 05/20/16

Signature:

300 S. Harbor Blvd., Ste. 600, Anaheim, CA 92805

**Acknowledgement Form**  
**KEMRON Environmental Services, Inc.**  
**Conflict of Interest Plan Certification**

I have received, read and understand the document indicated below. As an employee of KEMRON, I acknowledge that I have read and understand the COI plan and will report to my manager and contract Program Managers any past, present or future relationship that may result in an actual or potential COI. I acknowledge that I am subject to the policies, procedures, rules and regulations contained therein, and that the Company may add, delete, or revise any part or all of the policy without prior notice.

Company: **KEMRON Environmental Services, Inc.**

Document Title: **Conflict of Interest Plan**

Document Number: **01-COI-00**

Date Issued: **January 2012** 

Employee Signature: 

Printed Name: 

Date: 5/12/14

# OSCA

OCCUPATIONAL SAFETY  
COUNCILS OF AMERICA

## Certified Training Certificate



*is hereby granted to:*



*for successful training course completion*

### Hazwoper 8-Hour Refresher

**8 Hours 28 Min.**

---

COURSE DURATION

**12/01/2014**

---

COMPLETION DATE



**OCCUPATIONAL SAFETY COUNCILS OF AMERICA**

455 East Carson Plaza Drive, Carson, CA 90746 Phone: 866-699-2727  
[www.osca.com](http://www.osca.com)



401 Matthew Street  
Marietta, OH 45750  
(740) 374-9954  
(740) 374-7230 (fax)

### MEDICAL SURVEILLANCE CERTIFICATION

Employer: [REDACTED] Employee Name: [REDACTED]

Date of Birth: [REDACTED] SSN: [REDACTED]

Exam Date: 06/01/2015 Clinic: RMC Center Occ Health/Anniston AL

The above applicant/employee's medical examination has been reviewed to determine whether he/she meets the criteria contained in your protocol as supplied to Marietta Occupational Health Partners, and the regulations noted below.

*Please note that areas in which he/she did not meet your criteria are explained on Page 2 of this report. Before instituting work restrictions based on these findings, you may wish to consider any accommodations that may be applicable. If further evaluations or testing are requested by Marietta Occupational Health Partners, appropriate clearances will be issued after receipt of the requested information. Any attached medical information should be treated as Confidential Medical Information in accordance with Section 102C of the Americans with Disabilities Act.*

Examination Type: Baseline Environmental Exam

#### FITNESS FOR DUTY:

No significant medical impairments noted. May be assigned duties consistent with skills and training.  Pending B-Reader Results  B-Reader Cleared  See Attached  
 Clearances may be given or added when further information is received (See page 2).

#### THIS APPLICANT/EMPLOYEE IS MEDICALLY CLEARED FOR:

##### RESPIRATORS (29 CFR 1910.134)

##### OSHA (29 CFR) and DOT (49 CFR)

Negative Pressure (NPR)  
 Self-Contained (SCBA)  
 Supplied or Powered Air (SAPR/PAPR)

DOT Clearance (391.1A1)  
 Hazardous Waste (1910.120)  
 Asbestos (1910.1001 / 1926.1101)



09/08/2015

Evaluation Date

**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**ATTACHMENT 4  
Hazard Communication Materials**

# HAZARD COMMUNICATION (HAZCOM)

## Attachment 3-2

### Chemical Labels – NFPA

OSHA Standard 1910.1200

**Every person who works with or around chemicals must understand the Labeling System**

**Hazards** - four basic hazard classifications for chemicals

**Health Hazards** are those that can affect the immediate or long term health of an employee if exposed to a specific chemical. Acute effects of exposure are those that present symptoms when exposure occurs, such as when skin is exposed to an acid. Delayed or long term health effects can also occur from chemical exposure, such as cancer. Health effects for any given chemical will depend on the toxicity, duration of exposure and amount of exposure.

**Fire Hazard** ratings range from *non-flammable* to *highly flammable*. The NFPA ratings are based on the material flashpoint—the temperature at which the chemical vapors will ignite.

**Reactivity** ratings describe the hazards of the material stability - some chemicals will explode or react violently if exposed to heat or shock

**Other Hazards** - special markings are required if the material is radioactive, an oxidizer, acid or base or will react when exposed to other materials.

**Hazard Controls include:**

- Labeling of all chemicals
- Proper chemical storage containers & areas
- Segregation of incompatible chemicals
- Personal Protective Equipment
- Use of chemicals by training and authorized employees
- Use of minimum amount necessary
- Bonding & Grounding of flammable liquid containers

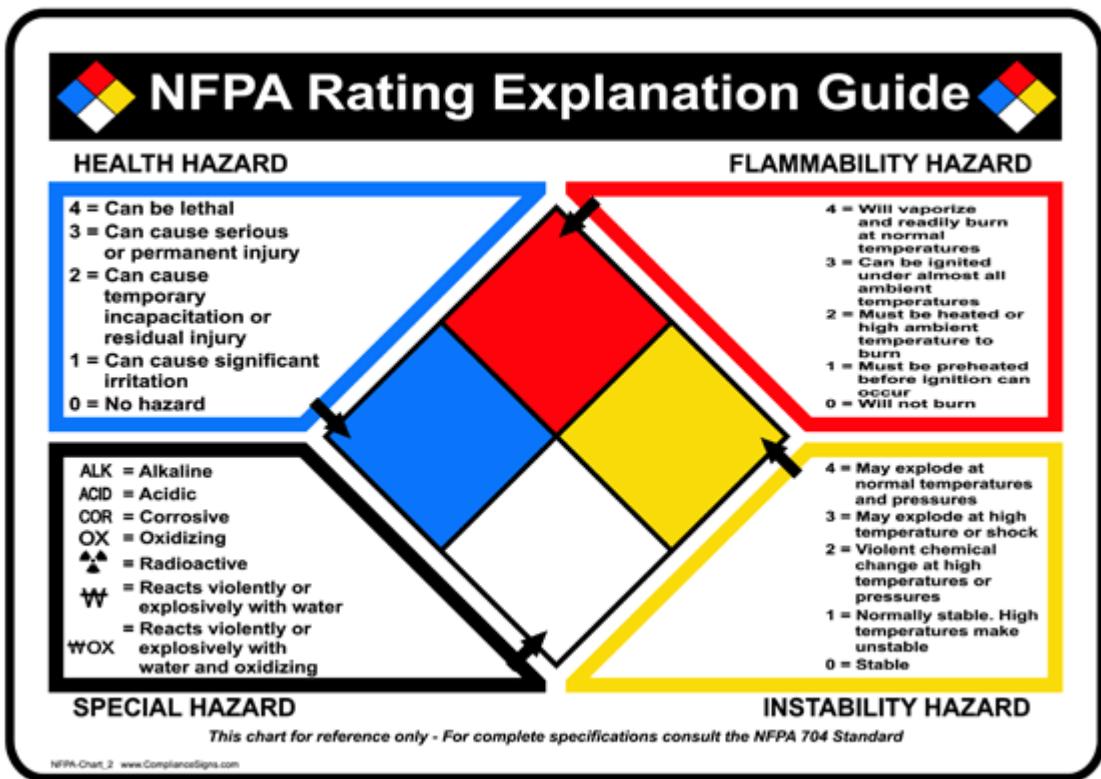
# HAZARD COMMUNICATION (HAZCOM)

## NFPA Rating Explanation Guide

RATING NUMBER	HEALTH HAZARD	FLAMMABILITY HAZARD	INSTABILITY HAZARD	RATING SYMBOL	SPECIAL HAZARD
<b>4</b>	Can be lethal	Will vaporize and readily burn at normal temperatures	May explode at normal temperatures and pressures	ALK	Alkaline
<b>3</b>	Can cause serious or permanent injury	Can be ignited under almost all ambient temperatures	May explode at high temperatures or shock	ACID	Acidic
<b>2</b>	Can cause temporary incapacitation or residual injury	Must be heated to high ambient temperature to burn	Violent chemical change at high temperatures or pressures	CCR	Corrosive
<b>1</b>	Can cause significant irritation	Must be preheated before ignition can occur	Normally stable. High temperatures make unstable	OX	Oxidizing
<b>0</b>	No hazard	Will not burn	Stable	▲	Radioactive
				VV	Reacts violently or explosively with water
				VV OX	Reacts violently or explosively with water and oxidizing

This chart for reference only. For complete specifications contact the NFPA 704 Standard.

## HAZARDOUS CHEMICAL INVENTORY FORM



**Accident Prevention Plan  
Remedial Investigation/Feasibility Study  
Area of Interest North of Castner Range  
El Paso, Texas**

**ATTACHMENT 5  
Fall-Protection Materials**

## Attachment 16-1

### Fall Protection Checklist

This checklist is to be completed in the selection and implementation of fall protection for all employees assigned to projects exposed to falls from elevated work areas.

**Job Description and Location:** \_\_\_\_\_

**Type of Fall Protection Required:**

1.	Personal protection equipment will be worn. Safety belts or harness with lifelines, lanyards, and/or droplines attached.
2.	Scaffolds or physical barricades will be erected to perform the job.
3.	A personal lift will be used. Specify: <input type="checkbox"/> Crane Personnel Basket <input type="checkbox"/> Mobile Lift
4.	A descent control device or ladder climbing device will be used.
5.	Safety nets are required.
6.	Other:

**General Checklist: This section is to be completed by Supervision to assist in taking precautions necessary to ensure safe completion of the job.**

1.	All employees have been advised of the hazards related to this job.
2.	If personal protective equipment is to be worn, all employees have been trained in the proper use, limitation, and care of that equipment.
3.	All safety lines and belts have been visually inspected for damage and/or defects, and have correct color coded tie wrap attached, indicating current inspection status.
4.	All scaffolds and elevated work platforms have been erected to conform with all Construction standards and procedures.
5.	As a consideration, employees working in personnel lifts have been supplied with 5-minute escape breathing devices.
6.	As a consideration, the crane operator has at least a 15-minute fresh air breathing device available.
7.	All employees working in a crane personnel basket or aerial lift have been instructed to wear safety belts or harnesses with lifelines attached.
8.	Emergency egress plans have been discussed and reviewed with all employees.
9.	All safety nets have a label attached to them with the name of the manufacturer, date manufactured, date of prototype test, and testing agency.
10.	The vertical safety rail/line of descent control devices or ladder climbing device has been checked for any defects or damage that may affect operation of the sleeve.
11.	Attachment points for lanyards, droplines, and lifelines are substantial to suspend the employees, in the event of a fall.
12.	A 2-way communication system shall be provided for employees who cannot hear the emergency alarm network.
13.	Employees working over water have been supplied with life preservers that are U.S. Coast Guard approved.
14.	All lifelines and lanyards have been secured, at a maximum length to permit a fall of no greater than six (6) feet.
15.	Additional Considerations/Recommendations:

## 16.0 ELEVATED WORK

### 16.1 Purpose

Protect employees performing elevated work from falls and injuries.

### 16.2 Scope

Protection is required for work performed at an elevation of 6 ft. or more above a lower level. Work on flat roofs and other flat fixed surfaces is not considered elevated work unless employees are: Within 6 ft. (1.8 m) or less of an edge or opening which is greater than 6 ft. in height.

### 16.3 Responsibilities

#### 16.3.1 SHSO and/or PM Responsibilities

The SHSO and/or PM will ensure that elevated work hazards are properly identified in the project specific health and safety plan, and employees involved in performing elevated work have been properly trained in accordance with this section.

The SHSO and/or PM will ensure that a competent person is assigned to conduct the following activities as a monitor:

- Recognize fall hazards
- Warn employees if they are unaware of a fall hazard or are acting in an unsafe manner
- Be on the same working surface and in visual sight of employees performing elevated work
- Stay close enough for verbal communication
- Have no other assignments that would take the monitor's attention from his/her monitoring function.

#### 16.3.2 Employee Responsibilities

Each employee is responsible for following the project specific health and safety plan, implementing this elevated work procedure, and following verbal and written direction of the SHSO and PM regarding safe work practices.

### 16.4 Procedures

A Fall Protection Checklist, Attachment 16-1, will be completed for each elevated work activity. Employees performing elevated work must be protected from falls with one or more of the following types of protection:

- Fixed work platforms with approved guardrail systems
- Safety net systems, or
- Personal fall arrest systems

All equipment and raw materials for use in fall protection systems will conform to applicable ANSI and ASTM standards.

#### 16.4.1 Scaffolds

Approved scaffolds constructed and used in accordance with 29 CFR 1926.451 and the requirements of this section must be utilized.

- The footing or anchorage for scaffolds will be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Unstable objects such as barrels, boxes, loose brick, or concrete blocks, will not be used to support scaffolds or planks.
- No scaffold will be erected, moved, dismantled, or altered except under the supervision of competent persons.
- Guardrails and toeboards will be installed on all open sides and ends of platforms more than 6 ft. above the ground or floor, except needle beam scaffolds and floats.
- Guardrails will be 2x 4 inches, or the equivalent, approximately 42 inches high, with a midrail. Supports will be intervals not to exceed 8 ft. Toeboards will be a minimum of 4 inches in height.
- Where persons are required to work or pass under the scaffold, scaffolds will be provided with a screen between the toeboard and the guardrail, extending along the entire opening, consisting of No. 18 gauge U.S. Standard wire  $\frac{1}{2}$ -inch mesh, or the equivalent.
- Scaffolds and their components will be capable of supporting without failure at least 4 times the maximum intended load.
- Any scaffold including accessories such as braces, brackets, trusses, screw legs, ladders, etc. damaged or weakened from any cause will be immediately repaired or replaced.
- All load-carrying timber members of scaffold framing will be a minimum of 1,500 fiber (Stress Grade) construction grade lumber. All dimensions are nominal sizes as provided in the American Lumber Standards, except that where rough sizes are noted, only rough or undressed lumber of the size specified will satisfy minimum requirements.
- All planking will be Scaffold Grades, or equivalent, as recognized by approved grading rules for the species of wood used.
- The maximum permissible span for 1 1/4 x 9 inch or wider plank of full thickness will be 4 ft. with medium duty loading of 50 pounds per square foot (psf).
- All planking of platforms will be overlapped (minimum 12 inches), or secured from movement.
- An access ladder or equivalent safe access will be provided.
- Scaffold planks will extend over their end supports not less than 6 inches nor more than 18 inches.
- The poles, legs, or uprights of scaffolds will be plumb, and securely and rigidly braced to prevent swaying and displacement.
- Overhead protection will be provided for men on a scaffold exposed to overhead hazards.
- Slippery conditions on scaffolds will be eliminated as soon as possible after they occur.
- No welding, burning, riveting, or open flame work will be performed on any staging suspended by means of fiber or synthetic rope. Only treated or protected fiber or synthetic ropes will be used for or near any work involving the use of corrosive substances or chemicals.
- Wire synthetic, or fiber rope used for scaffold suspension will be capable of supporting at least 6 times the rated load.
- The use of shore or lean-to scaffolds is prohibited.
- Lumber sizes, when used in this subpart, refer to nominal sizes except where otherwise stated.
- Materials being hoisted onto a scaffold will have a tag line.
- Employees will not work on scaffolds during storms or high winds.

- Tools, materials, and debris will not be allowed to accumulate in quantities to cause a hazard.

#### **16.4.2 Vehicle mounted elevating and/or rotating work platforms.**

Vehicle mounted elevating and/or rotating work platforms used on KEMRON premises will meet the following requirements:

##### **16.4.2.1 Ladders trucks and tower trucks.**

Aerial ladders will be secured in the lower traveling position by the locking device on top of the truck cab, and the manually operated device at the base of the ladder before the truck is moved for highway travel.

##### **16.4.2.2 Extensible and Articulating Boom Platforms**

- Lift controls will be tested each day prior to use to determine that such controls are in safe working condition.
- Only authorized persons will operate an aerial lift.
- Belting off to an adjacent pole, structure, or equipment while working from an aerial lift is prohibited.
- Employees will always stand firmly on the floor of the basket, and will not sit or climb on the edge of the basket or use planks, ladders, or other devices for a work position.
- A body belt will be worn and a lanyard attached to the boom or basket when working from an aerial lift.
- Boom and basket load limits specified by the manufacturer will not be exceeded.
- The brakes will be set and when outriggers are used, they will be positioned on pads or a solid surface. Wheel chocks will be installed before using an aerial lift on an incline, provided they can be safely installed.
- An aerial lift truck will not be moved when the boom is elevated in a working position with men in the basket, except for equipment which is specifically designed for this type of operation.
- Articulating boom and extensible boom platforms, primarily designed as personnel carriers, will have both platform (upper) and lower controls.
- Upper controls will be in or beside the platform within easy reach of the operator. Lower controls will provide for overriding the upper controls. Controls will be plainly marked as to their function. Lower level controls will not be operated unless permission has been obtained from the employee in the lift, except in case of emergency.
- Climbers will not be worn while performing work from an aerial lift.
- The insulated portion of an aerial lift will not be altered in any manner that might reduce its insulating value.
- Before moving an aerial lift for travel, the boom(s) will be inspected to see that it is properly cradled and outriggers are in stowed position.

#### **16.4.3 Ladders must be properly secured and placed on firm footing.**

Ladders must be properly secured and placed on firm footing. All straight ladders will be tied-off to secure anchor points to prevent the ladders from slipping or tipping.

#### **16.4.4 Safety belts or harnesses**

Safety belts or harnesses, as specified by the location, will be used with secured lanyards or lifelines. Additional requirements are:

- Lanyards must limit falls to 6 ft. and have normal breaking strength of 5400 lbs.
- Lanyards must be  $\frac{1}{2}$  inch nylon or equivalent.
- Anchorage points must be capable of supporting the user in the event of a fall.
- Tool belts may not be used for fall protection.

#### **16.4.5 Mobile work platforms**

Mobile work platforms and portable ladders used in close proximity to electrical lines must have appropriate clearance.

#### **16.4.6 Inspections**

Equipment and/or vehicles used in elevated work must be inspected prior to each use by the user. Defective equipment is to be removed from service immediately.

### **16.5 Training**

Employees must be trained in elevated work practices and related equipment. Training will be provided by Marilyn Zumbro, KEMRON's CHSO, or a qualified person designated by the CHSO. Training requirements identified in 29 CFR 1926.503 are as follows:

- (a) Training Program
  - (a)(1) The employer will provide a training program for each employee who might be exposed to fall hazards. The program will enable each employee to recognize the hazards of falling and will train each employee in the procedures to be followed in order to minimize these hazards.
  - (a)(2) The employer will assure that each employee has been trained as necessary, by a competent person qualified in the following areas:
    - (a)(2)(i) The nature of fall hazards in the work area;
    - (a)(2)(ii) The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
    - (a)(2)(iii) The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;
    - (a)(2)(iv) The role of each employee in the safety monitoring system when this system is used in lieu of other alternate methods;
    - (a)(2)(v) The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
    - (a)(2)(vi) The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
    - (a)(2)(vii) The role of employees in fall protection plans;
    - (a)(2)(viii) The standards contained in this subpart.
- (b) Certification of training.
  - (b)(1) The employer will verify compliance with paragraph (a) of this section by preparing a written certification record. The written certification record will contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer.

If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record will indicate the date the employer determined the prior training was adequate rather than the date of actual training.

(b)(2) The latest training certification will be maintained.

(c) Retraining. When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (a) of this section, the employer will retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

- (c)(1) Changes in the workplace render previous training obsolete; or
- (c)(2) Changes in the types of fall protection systems or equipment to be used render previous training obsolete; or
- (c)(3) Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate that the employee has not retained the requisite understanding or skill.

**ATTACHMENT 6  
Fire-Protection Materials**

## Attachment 5-2 Hot Work Permit

Permit Date: \_\_\_\_\_ Job Site/Number: \_\_\_\_\_ Emergency Phone #: \_\_\_\_\_

### **Section 1: Personnel**

Person(s) Performing Work: \_\_\_\_\_

Fire Watch: \_\_\_\_\_

Supervisor: \_\_\_\_\_

### **Section 2: Job Description**

Arc Welding  Oxygen/Gas Welding  Brazing  Other: \_\_\_\_\_

Oxygen/Acetylene Cutting  Grinding  Hot Tap \_\_\_\_\_

### **Section 3: Hazard Abatement**

YES  NO  N/A Floors have been swept clean and combustible materials moved for a radius of 35 feet surrounding the area where hot work is taking place. If the floor material itself is combustible, then it will be kept wet, covered with damp sand, or protected by fire resistant shielding. Where floors have been wet down to protect from fire hazard, personnel operating arc welding equipment will take precautions to avoid electric shock.

YES  NO  N/A Cutting or welding will not be permitted in the presence of explosive atmospheres. These atmospheres will be tested with proper air monitoring equipment (i.e., CGI/O<sub>2</sub>) prior to commencing hot work.

YES  NO  N/A Cutting or welding shall not be permitted near the storage of large quantities of exposed, readily ignitable materials such as bulk sulfur, baled paper or cotton.

YES  NO  N/A Ducts, piping, or other systems that might carry sparks to distant combustibles have been suitably protected or shut down. These systems shall be either blocked, blanked, or disconnected from process vessels/systems.

YES  NO  N/A Fire resistant shields have been placed to protect walls made of combustible material when hotwork operations cannot be moved.

YES  NO  N/A Proper PPE (welding Goggles/Hood, Properly Tinted Lenses, Welding Gloves, Welding Jacket, etc.) is readily available and in good serviceable condition.

### **Section 4: Air Monitoring**

Monitoring Equipment: \_\_\_\_\_ Brand Model: \_\_\_\_\_

Serial #: \_\_\_\_\_ Calibrated By: \_\_\_\_\_

TEST ATMOSPHERE	ACTION GUIDELINES =>	TIME						
Combustible Gas	0-10% >10% No Explosion Hazard Danger: Contact H&S							
Oxygen	20.0 – 22.0% Less than 20.0% 22.0% or Greater Safe Operating Conditions Oxygen Deficient :Contact H&S Oxygen Enriched :Contact H&S							
Organic Vapor	0 – 3 ppm 3 – 50 ppm 50 – 1000 ppm Level D (Product Specific) Level C (Product Specific) Level B (Project Specific)							

### **Contact Health and Safety for Action Guidelines for Other Materials**

### **Section 5: Permit Review and Acknowledgement**

By signing below, I certify that I am fully trained in the performance of my duties (either as welder, firewatch, or supervisor) and understand the operational requirements for the equipment to be used, and that I will comply with the guidelines delineated in the KEMRON Welding, Cutting, and Brazing Standard Operating Procedures.

Person(s) Performing Work

Firewatch

Permit Writer

Authorizing Official (If needed)

Additional Information (Include any additional signatures, phone numbers, and emergency information needed on permit. Use back of permit, if needed).

### **Section 6: Task Completion and Permit Close-Out**

Comments:

The firewatch will remain in place for 30 minutes after completion of task. This permit must be sent to the Corporate Health and Safety Manager in Marietta, Ohio. A copy of the permit may be kept at the originating office. If there are any questions, please contact the Corporate Health and Safety Manager.

Supervisor (Print and Sign Name)

Date /Time

**Quality Assurance Project Plan  
Remedial Investigation/Feasibility Study for  
Area of Interest North of Castner Range  
El Paso, Texas**

**APPENDIX B**

**ENVIRONMENTAL PROTECTION PLAN**

# **Environmental Protection Plan**

## **Remedial Investigation/Feasibility Study**

### **Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

**December 2017**

**Version: Draft Final, Revision 3**

*Prepared for*

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**Environmental Protection Plan  
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**Acronym List**

CERCLA	Comprehensive Environmental, Response, Compensation and Liability Act
EPP	Environmental Protection Plan
GPS	Global Positioning System
KEMRON	KEMRON Environmental Services, Inc.
MEC	Munitions and Explosives of Concern
NCP	National Contingency Plan
QAPP	Quality Assurance Project Plan
RI	Remedial Investigation
SUXOS	Senior UXO Supervisor
UFP	Uniform Federal Policy
US	United States
USACE	United States Army Corps Of Engineers
USFWS	US Fish and Wildlife
WMP	Waste Management Plan

## **1. INTRODUCTION**

---

This Environmental Protection Plan (EPP) describes the procedures and methods to minimize impacts to environmental and cultural resources during the Remedial Investigation at the Area of Interest (AOI) North of Castner Range and is presented as an appendix to the Uniform Federal Policy (UFP) – Quality Assurance Project Plan (QAPP). The EPP was prepared in accordance with Section 4.7 of EM 200-1-15.

Procedures for avoiding, minimizing, and mitigating potential impacts to environmental and cultural resources during site field activities were considered during the design of the Remedial Investigation (RI) at the AOI North of Castner Range and are described below in the natural resources and cultural resource sections, respectively. Natural resources include Texas rare, threatened and endangered species and their habitats. No information has been located for potential cultural, archeological, or historical resources for the AOI; however, based on input from the installation, there is a potential for cultural resources to be located throughout the site. The objective of the EPP is to identify, coordinate and consult with the appropriate federal and state agencies and stakeholders in advance of commencement of the RI to obtain their feedback to ensure adequate natural and/or cultural resource protection measures are incorporated into the UFP-QAPP. The purpose of these measures is to avoid, minimize, and/or mitigate potential environmental impacts to the maximum extent practical without compromising the ability to achieve the primary objective of the RI. For the AOI North of Castner Range, it is not anticipated that the field activities will significantly impact the environment or cultural resources.

All work performed by the US Army Corps of Engineers (USACE), Tulsa and its contractor, KEMRON Environmental Services, Inc. (KEMRON), will be performed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 104 and the National Contingency Plan (NCP), Sections 300.120(d) and 300.400(e), and in compliance with applicable federal and state laws and regulations. CERCLA response actions are exempted by law from the administrative requirement to obtain federal, state or local permits related to any activities conducted completely on-site. It is the policy of the Department of the Army, the US Environmental Protection Agency (EPA) and the Texas Commission on Environmental Quality (TCEQ) to assure all activities conducted on sites are protective of human health and the environment.

## 2. COORDINATION AND CONSULTATIONS WITH AGENCIES, ORGANIZATIONS AND STAKEHOLDERS

The appropriate federal, state and local natural and cultural resource agencies/organizations and stakeholders will be notified before the field investigation begins. Federal, state and local agencies, organizations and stakeholders will also have the opportunity to review the UFP-QAPP and participate in the public meeting prior to the start of field work. Government agencies and stakeholders that may be consulted in relation to cultural and natural resources are identified in **Table 1**. Prior to the execution of the UFP-QAPP, regular lines of communications will be developed with the applicable agencies and stakeholders, as appropriate. Continued coordination and consultation with these organizations will be conducted as warranted during project execution to maximize environmental protection of natural and cultural resources at the project site.

**Table 1. Agencies, Organizations and Stakeholders**

Resource	Classification	Agency/Organization/Stakeholder
Threatened and Endangered Species	Federal	US Fish and Wildlife Service (USFWS) New England Field Office 70 Commercial Street, Suite 300 Concord, NH 03301 Susi von Oettingen
	State	Texas Parks & Wildlife Department 4200 Smith School Road Austin, Texas 78744
Wetlands/Water Resources Environmental Coordination & Consultation	Federal	US Fish and Wildlife Service National Wetlands Inventory
	State	Texas Parks & Wildlife Department Austin, Texas 78744
	Local	<div style="border: 1px solid red; padding: 2px; display: inline-block;">[REDACTED]</div> State Parks Division Franklin Mountains State Park 1331 McKelligan Canyon Road El Paso, TX 79930 <div style="border: 1px solid red; padding: 2px; display: inline-block;">[REDACTED]</div>
Cultural and Archeological Resources	State	Texas Historical Commission 1511 Colorado Street Austin, Texas 78701 (512)463-6100

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<b>Resource</b>	<b>Classification</b>	<b>Agency/Organization/Stakeholder</b>
		Texas Historical Commission El Paso, Texas 79904
	Local	<p><b>Archeology</b>  <span style="background-color: red; color: red;">[REDACTED]</span>  <span style="background-color: red; color: red;">[REDACTED]</span></p> <p><b>Architecture</b>  <span style="background-color: red; color: red;">[REDACTED]</span>  <span style="background-color: red; color: red;">[REDACTED]</span></p> <p><b>History</b>  <span style="background-color: red; color: red;">[REDACTED]</span>  <span style="background-color: red; color: red;">[REDACTED]</span></p>
Natural and Water Resources	State	Texas Water Development Board Austin, Texas
	Local	Texas Water Development Board Panhandle West Division Lee Huntoon (512) 463-6021

### **3. ENVIRONMENTAL PROTECTION PLAN FOR NATURAL RESOURCES PROTECTION**

---

#### **3.1. Threatened and Endangered Species and Species of Special Concern**

Relevant federal and state agencies and stakeholders associated with threatened and endangered species and species of special concern listed in **Table 1** will have the opportunity to review the UFP-QAPP for the AOI North of Castner Range prior to the commencement of RI field work. This review will allow USACE Tulsa to identify work areas which may potentially contain threatened and endangered species or species of special concern (i.e. protected species), and their habitats.

No federal listed species of concern, threatened, and/or endangered species are known to occur or potentially occur within the AOI.

State listed species of concern, threatened, and/or endangered species known to occur or potentially occur within the AOI include:

- 6 birds: Northern Aplomado Falcon, Peregrine Falcon, American Peregrine Falcon, Interior Least Tern, Mexican Spotted Owl, Southwestern Willow Flycatcher
- 2 mammals: Gray wolf, Black bear
- 1 plant: Sneed's pincushion cactus
- 3 reptiles: Texas horned and Mountain short-horned lizards, Chihuahuan Desert lyre snake

Due to the minimal brush clearing and soil disturbance at the site, it is not expected that fieldwork will impact these species.

#### **3.2. Wetlands and Water Resources**

To determine the wetland areas within the AOI North of Castner Range, the USFWS National Wetlands Inventory database was used. There were no wetland areas identified.

#### **3.3. Cultural and Archeological Resources**

No information has been located for potential cultural, archeological, or historical resources for the AOI; however, based on input from the installation, there is a potential for cultural resources to be located throughout the site. The types of historical areas believed to possibly exist are old homestead or mining operation areas. Prior to the commencement of field work, potential cultural or archeological resources located at the AOI North of Castner Range work site will be identified. In the event that cultural or archeological resources are identified within the work area, KEMRON will consult with the appropriate agencies prior to conducting field work in these areas. In the event that cultural or archeological resources are identified by field personnel during the course of RI field activities, they will immediately inform the Senior Unexploded Ordnance Supervisor (SUXOS) and the Project Manager and will discontinue work in the area until the relevant federal and state agencies are contacted. The identities and locations of known or discovered cultural resources will not be released to the public without prior consent from the appropriate agencies.

### **3.4. Measures to Avoid, Minimize, and/or Mitigate Environmental Impacts**

The following sections describe the procedures KEMRON will implement to minimize potential environmental impacts to the study area. KEMRON will coordinate with the appropriate natural resources agencies and stakeholders throughout the preparation and execution of the field investigation.

#### **3.4.1. Worker Education Briefing**

All field personnel will be briefed on the need for avoiding, minimizing and/or mitigating potential impacts to sensitive environmental resources. The appropriate KEMRON personnel will brief the field team members, including subcontractors, about potential environmental concerns at the AOI North of Castner Range site prior to the beginning of field work.

RI field teams will be trained in the recognition of biological concerns, such as migratory bird nests prior to the onset of field activities. In the event that trees or shrubs with evidence of nesting birds are encountered during RI field activities, those structures will be avoided, and their locations will be recorded with GPS and provided to relevant federal and state agencies and stakeholders.

#### **3.4.2. Vegetation Removal**

The necessity for vegetation removal will be minimized by meandering transect surveys up to 10 feet laterally in either direction from the planned transects to avoid areas of impassable vegetation. When the transect paths cannot avoid areas of impassable vegetation, vegetation removal will be limited to grasses and small shrubs that impede the transect investigation and will be conducted using hand tools. If endangered plants are observed at the location of an identified anomaly that requires hand digging for removal, the plants/grasses will be placed to the side of the excavated area and replaced after the anomaly is removed.

Where vegetation removal is necessary, the vegetation will be cut to a length of six inches above the ground surface to minimize the impact to the soil surface. Vegetation with a height of less than six inches will not be cut. Removal of woody vegetation will be limited to specimens with a diameter at breast height (dbh) of less than one inch. Clearing of lower branches of woody vegetation with a dbh greater than 1 inch will be limited to six feet above the ground. All cleared areas of vegetation will be allowed to re-vegetate naturally.

#### **3.4.3. Existing Non-Munitions Waste Disposal Sites**

KEMRON is unaware of any non-munitions related waste disposal locations within the AOI.

#### **3.4.4. Burning Activities**

There are no burning activities planned for this project.

#### **3.4.5. Dust and Emission Control**

Due to the limited amount of disturbed area anticipated during the project, it is not anticipated that dust controls will be needed on site. No emissions other than exhaust from project vehicles should be generated. Whenever possible, vehicles and equipment will not be allowed to idle more than five minutes at one time.

### **3.4.6. Spill Control and Prevention**

The Waste Management Plan (WMP) included in Appendix C covers waste management.

### **3.4.7. Storage Areas and Temporary Facilities**

KEMRON anticipates using non-permanent facilities for the storage of unfueled field equipment such as geophysical detectors and global positioning system (GPS) equipment.

Portable toilets will be rented and placed near the work area for field personnel use.

### **3.4.8. Site Water Run-on and Run-off Controls**

Due to the minimal intrusive activities at the site, water controls are not anticipated for this project.

### **3.4.9. Decontamination and Disposal of Equipment**

Decontamination will consist of performing a dry-decontamination of equipment (including scraping dirt and mud from the equipment) before demobilization.

### **3.4.10. Minimizing Areas of Disturbance**

In the event that potential Munitions and Explosives of Concern (MEC) items are located, soil and plants covering the items will be excavated and placed to one side. All detonation holes will be, to the greatest extent feasible, filled, regraded, and returned to their previous state. The excavated soil and plant material will be replaced over the detonation hole. Explosive disposal activities may release vapors or gaseous emissions, but due to their temporary and intermittent nature, they are not anticipated to be detrimental to the local environment. Prior to site restoration, a post demolition site UXO sweep will be conducted to insure all MEC has been destroyed, and debris removal has been accomplished in accordance with site specifications.

### **3.4.11. Field Restoration**

Upon completion of RI field activities, the AOI will be restored to its original condition as feasible, including removal of solid waste and unused materials. Damage to the AOI due to field activities will be identified and a plan for corrective action, if required, will be conducted.

### **3.4.12. Air Monitoring**

Air monitoring is not anticipated for this RI.

**Quality Assurance Project Plan  
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El Paso, Texas**

**APPENDIX C**

**WASTE MANAGEMENT PLAN**

# **Waste Management Plan**

## **Remedial Investigation/Feasibility Study**

### **Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

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*Prepared for*

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**Waste Management Plan  
Remedial Investigation/Feasibility Study for  
Area of Interest North of Castner Range  
El Paso, Texas**

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### **Acronym List**

ESP	Explosives Site Plan
MDAS	material documented as safe
MDEH	material documented as an explosive hazard
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
WMP	Waste Management Plan

## **1. INTRODUCTION**

---

This Waste Management Plan (WMP) describes types of non-explosive waste expected to be generated and the waste management practices and procedures that will be followed during the execution of the project tasks. It is anticipated that four potential types of waste may be generated, including material documented as safe (MDAS), impacted soils, decontamination fluid, and general refuse generated by onsite personnel.

## **2. MATERIAL DOCUMENTED AS SAFE DISPOSAL**

---

During the field investigation, the potential exists for encountering munitions and explosives of concern (MEC) and material potentially presenting an explosive hazard (MPPEH). MPPEH will be documented by authorized and technically qualified personnel as either material documented as an explosive hazard (MDEH) or material documented as safe (MDAS) after a 100% inspection and an independent 100% re-inspection to determine if it is safe from an explosives safety perspective. MEC and MDEH will be managed and disposed in accordance with the Explosives Site Plan (ESP).

### **3. SOILS AND DECONTAMINATION FLUIDS**

---

If a demolition operation(s) occurs at the site, soil samples will be collected as described in UFP QAPP Worksheet #11A. If the results of the soil samples are above the action limits, up to six inches of soils will be removed from the demolition location to remove potential munitions constituents from the site. Sample analysis is discussed in UFP QAPP Worksheet #15. These soils will be secured in 55-gallon drums and will be placed in a locked portable storage container until proper disposal can be arranged. The drums will be labeled with date of soil sample collection, identification of contractor and contractor contact information. If the sample results come back with concentrations below regulatory limits, no additional action will be required.

## **4. GENERAL REFUSE**

---

During the field investigation, incidental waste items will be generated such as water bottles, nitrile gloves, paper etc. Recyclable items will be separated from other refuse and recycled on base if possible. Other general waste items will also be disposed of on base, assuming base approval. Under no circumstances will waste be left onsite after the field work is completed.

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**APPENDIX D**

**EXPLOSIVES MANAGEMENT PLAN**

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The Explosives Management Plan is captured in procedures and methods detailed in the Explosives Site Plan, UXO SOP 6 (Demolition of MEC/MPPEH and MDEH), UXO SOP 7 (Explosives Management), and UXO SOP 8 (Explosives Siting/Exclusion Zones).

**Quality Assurance Project Plan  
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El Paso, Texas**

**APPENDIX E**

**EXPLOSIVES SITE PLAN**

# **Explosives Site Plan**

## **Remedial Investigation/Feasibility Study**

### **for Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

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### **Acronym List**

AEC	Army Environmental Command
AOI	area of interest
DDESB	Department of Defense Explosives Safety
DGM	digital geophysical mapping
DoD	U.S. Department of Defense
EM	engineer manual
EPA	U.S. Environmental Protection Agency
ESQD	explosive safety quantity-distance
FS	feasibility study
HE	high energy
HFD	hazard fragment distance
KEMRON	KEMRON Environmental Services, Inc.
MC	munitions constituents
MD	munitions debris
MEC	munitions and explosives of concern
MPPEH	material potentially presenting an explosive hazard
MRS	Munitions Response Site
MSD	minimum separation distance
RI/FS	remedial investigation/feasibility study
SUXOS	Senior UXO Supervisor
TCEQ	The Texas Commission on Environmental Quality
TM	technical manual
TP	technical paper
USACE	U.S. Army Corps of Engineers
UXO	unexploded ordnance

## **1. SITE**

---

### **1.1. Name**

Area of Interest North of Castner Range, El Paso, Texas.

### **1.2. State**

Texas.

## **2. ANTICIPATED START DATE**

October 2018.

### **3. PURPOSE**

---

U.S. Army Corps of Engineers (USACE) is conducting environmental activities at the Munitions Response Site (MRS) known as the Area of Interest (AOI) North of Castner Range, El Paso, Texas, site under the Defense Environmental Restoration Program-Military Munitions Response Program.

KEMRON Environmental Services, Inc. (KEMRON) will perform all work in accordance with federal, state, and local statutes, regulations, and guidance. The Texas Commission on Environmental Quality (TCEQ) and U.S. Environmental Protection Agency (EPA) Region 6 are the regulatory agencies for this site. TCEQ is the lead regulatory agency. As such, all associated work will be consistent with the provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended by the Superfund Amendments and Reauthorization Act of 1986, and National Oil and Hazardous Substances Pollution Contingency Plan (40 Code of Federal Regulations §300) requirements, and under the state of Texas Voluntary Cleanup Program with regulatory coordination, as appropriate, by TCEQ. The AOI North of Castner Range is not on the National Priorities List.

## **4. SITE BACKGROUND AND CURRENT CONDITIONS**

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The AOI North of Castner Range is 7,936 acres in El Paso County, Texas. The remedial investigation area will include approximately 5,860 acres. It is located north of the Closed Castner Range, now owned by the state of Texas and the city of El Paso, and is bounded by Martin Luther King Boulevard on the east and Franklin Mountains State Park on the west. Housing developments exist to the south, and a quarry is in operation just north of the northern boundary. The site location is shown in **Appendix A, Figure 1**.

There are no records showing ownership or use of the AOI by Fort Bliss; however, multiple munitions debris (MD) items were identified during a munitions and explosives of concern (MEC) reconnaissance survey completed by USACE, Huntsville District, from 2013 to 2015. The Army Environmental Command indicated that the presence of MD occurred either from kick-out debris from an open burn/open detonation area or from overshoot during training exercises in the Fort Bliss Closed Castner Range that borders the AOI. No MEC items were discovered during the reconnaissance.

Current land uses at the AOI North of Castner Range include ranching and state park land. The area is currently owned by the state of Texas (Franklin Mountains State Park) and the city of El Paso, Texas.

## 5. EXECUTING AGENCIES

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- Fort Bliss
- Army Environmental Command
- USACE Tulsa District
- TCEQ
- EPA Region 6

## **6. SCOPE OF INVESTIGATIVE/CHARACTERIZATION ACTION**

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The current project involves an RI/FS and achieving stakeholder acceptance of a Proposed Plan and Decision Document for the 5,860-acre AOI North of Castner Range in El Paso County, Texas. The objective of the RI is to build on previous work and includes collecting appropriate data to characterize the nature and extent of MEC and munitions constituents (MC) at the site.

A combination of digital geophysical mapping (DGM), analog mag and dig, and visual-aided survey will be conducted to determine the extent of MEC contamination within the MRS for the RI/FS, shown in **Table 6-1** and further detailed in **Appendix A, Figure 2**. All anomalies will be intrusively investigated to the depth of detection of the Geonics EM61-MK2 metal detector or handheld EM sensor being used. KEMRON unexploded ordnance (UXO) technicians will provide MEC anomaly avoidance during the DGM and visual-aided surveys. The UXO team under the supervision of the Senior UXO Supervisor (SUXOS) will conduct manual intrusive investigations of the identified anomalies.

All KEMRON personnel assigned to the RI/FS project will meet the minimum qualifications outlined in Department of Defense Explosives Safety Board (DDESB) Technical Paper (TP) 18.

**Table 6-1**  
**MRS Area**

<b>MRS</b>	<b>Munitions Response</b>	<b>Acreage</b>
AOI North of Castner Range	RI/FS	5,860

## **7. SAFETY CRITERIA**

In February and June 2013, the Ordnance and Explosives (OE) Directorate Corps of Engineers Huntsville Center (CEHNC) conducted a Munitions and Explosives of Concern (MEC) reconnaissance survey on the former North Castner Range (NCR) footprint. During this survey, no explosive hazards were observed, but several 75mm MK1 (shrapnel) projectile casings were identified. Based on these findings, the munition with the greatest fragmentation distance for the AOI North of Castner Range MRS is the 75mm Mk1 (shrapnel) projectile. If MEC with a greater fragmentation distance is encountered within the AOI North of Castner Range, the minimum separation distance (MSD) will be adjusted in accordance with DDESB TP 16, operations will continue, and an amendment to this Explosives Site Plan will be submitted for approval. A copy of this document will be available on site. The explosive safety quantity-distance (ESQD) arcs will be adjusted accordingly.

Fragmentation Data Review Forms are in **Appendix B**; **Table 7-1** and **Appendix A, Figure 2** contain information related to MSDs.

**Table 7-1  
Minimum Separation Distances**

MRS	MEC	MSD (feet)				
		Unintentional Detonations		Intentional Detonations		
		Team Separation Distance (K40)	Hazard Fragment Distance (HFD)	Without Engineering Controls	Using Single Sandbag Mitigation	Using Double Sandbag Mitigation
AOI North of Castner Range	75mm Mk1 (shrapnel) projectile	17	121	886	25	12.5

Any occupied building or public roadway in the MSD area will be evacuated and/or blocked to prevent non-essential personnel from entering during MEC operations.

## 8. METHODS OF DISPOSAL

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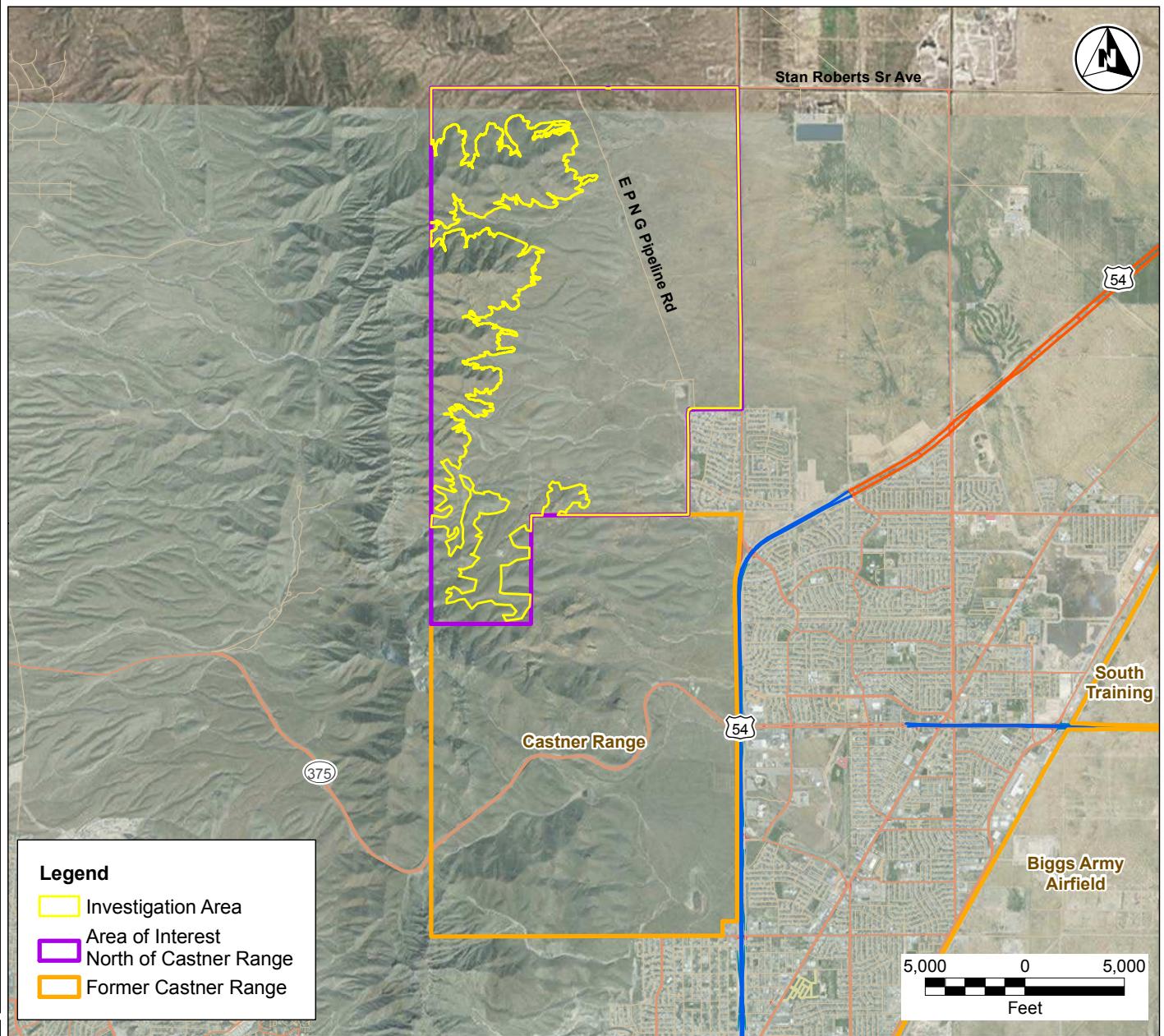
- a. All recovered MEC deemed by the KEMRON SUXOS and the UXO Safety Officer jointly as "acceptable-to-move" may be relocated within the AOI North of Castner Range, away from buildings and public transportation routes as necessary for disposal. In areas where multiple MEC items are found, collection points may be used. Collection points are those areas used to temporarily accumulate MEC determined acceptable to move by the SUXOS and UXOSO pending destruction at the end of the day using consolidated shots. MEC items at collection points must be laid out as shown in "Procedures for Demolition of Multiple Rounds (Consolidated Shots) on Ordnance and Explosives (OE) Sites." The maximum net explosive weight (NEW) at a collection point will be limited such that the K40 overpressure distance for the total NEW does not exceed the HFD for the area. Consolidating multiple MEC is anticipated for this project. If determined acceptable to move by the SUXOS and UXOSO consolidating multiple MEC may be anticipated for this project, US Army Engineering and Support Center, Huntsville (USAESCH) publication "Procedures for Demolition of Multiple Rounds (Consolidated Shots) on Ordnance and Explosives (OE) Sites," dated March 2000 will be used and a copy of this report will be available on site. The maximum NEW for a consolidated shot will be limited such that the K328 overpressure distance for the total NEW (including donor charges) does not exceed the MSD for the intentional detonation.
- b. All recovered MEC will be destroyed the same day found. In the event that MEC items cannot be disposed of on the same day the MEC will be guarded until disposal operations can be conducted.
- c. All explosive demolition operations will follow the procedures outlined in site Work Plans, SOPs and Engineer Manual (EM) 385-1-97, Explosives - Safety and Health Requirements Manual.
- d. Material potentially presenting an explosive hazard (MPPEH) procedures will be in accordance with U.S. Department of Defense (DoD), DoDI 4140.62, Material Potentially Presenting an Explosive Hazard (MPPEH) and USACE EM 200-1-15, Technical Guidance for Military Munitions Response Actions. All MPPEH will be assessed and its explosives safety status determined and documented before transfer within DoD or released from DoD control. Before release to the public, MPPEH will be documented by authorized and technically qualified personnel as material documented as safe after a 100% inspection and an independent 100% re-inspection to determine that it is safe from an explosives safety perspective.
- e. All demolition explosive materials for this project will be delivered to the project site by an Alcohol, Tobacco, Firearms and Explosives-licensed explosive dealer on an as-needed basis. No explosive storage is planned for this site.
- f. Sandbag mitigation may be used as engineering controls to reduce the intentional detonation MSD. These controls will be used IAW HNC-ED-CS- 98-7, Use of Sandbags for Mitigation of Fragmentation and Blast Effects Due to Intentional Detonation of Munitions, August 1998, its Amendment 1, February 2011 and its Amendment 2, November 2014; CEHNC-EMM Memorandum, Safety Advisory: Use of Jet Perforator During Intentional Detonation While Using Sandbag Mitigation for Engineering Controls, 7 November 2011; and DDESB-PD memorandum of 22 May 2014, Subject: Revision of DDESB Approval for Use of Sandbags for Mitigation of Fragmentation and Blast Effects Resulting From Intentional Detonation of Munitions Single sandbag mitigation will be the preferred fragmentation mitigation during demolition operations, except for any demolition conducted on or within the investigation area boundary (**Appendix A, Figure 2**), along the section of Pipeline road that runs along the west side of the residential area. Here, double sandbag mitigation will be utilized.

**Explosives Site Plan  
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- g. Should MEC be identified within the HFD of any public access road during intrusive operations, physical barriers coupled with road guards will be used to block traffic until the operation is complete.
- h. Fliers, social media, and existing Web-based community notification processes will be used to inform nearby residents of planned operations. Any residents affected by ESQD arcs as outlined in this Explosives Site Plan will be notified 24 hours in advance of intrusive operations.

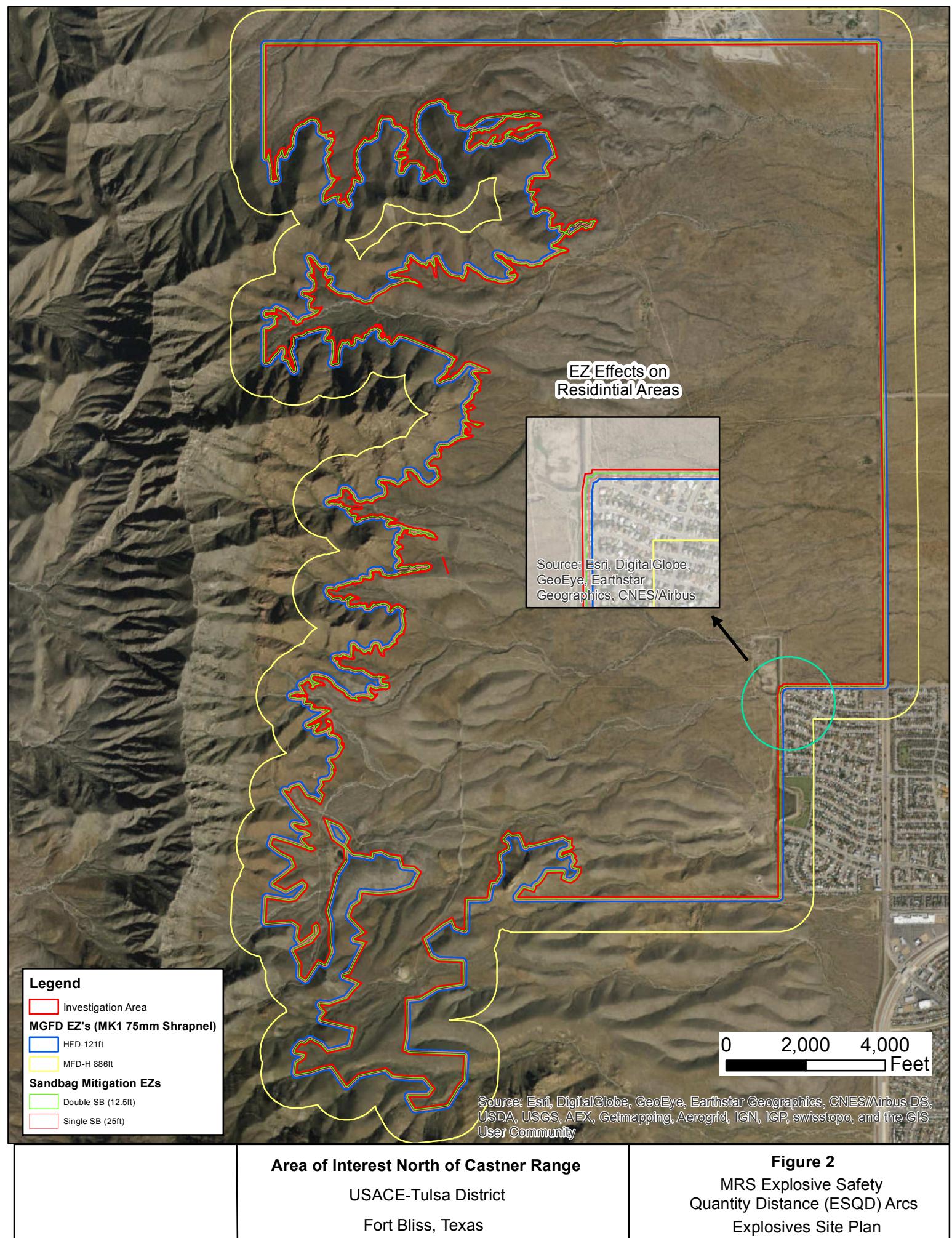
**APPENDIX A**

**MAPS**



**Area of Interest North of Castner Range**  
USACE - Tulsa District  
El Paso, Texas

**Figure 1**  
Site Location Map  
Explosives Site Plan



**APPENDIX B  
FRAGMENTATION DATA REVIEW FORM**

# Fragmentation Data Review Form



Database Revision Date 7/19/2017

Category:	Black Powder Rounds
Munition:	75 mm Mk 1 (Shrapnel)
Case Material:	Steel, Mild with Lead Shrapnel
Fragmentation Method:	Shrapnel
Secondary Database Category:	Shrapnel Round
Munition Case Classification:	Extremely Heavy Case

DODIC:	
Date Record Created:	9/21/2004
Record Created By:	MC
Last Date Record Updated:	4/15/2013
Individual Last Updated Record:	SDH
Date Record Retired:	

## Munition Information and Fragmentation Characteristics

Explosive Type:	Black Powder
Explosive Weight (lb):	0.1875
Diameter (in):	2.9500
Cylindrical Case Weight (lb):	0.43009
Maximum Fragment Weight (Intentional) (lb):	0.0239
Design Fragment Weight (95%) (Unintentional) (lb):	0.0239
Critical Fragment Velocity (fps):	981

## Sandbag and Water Mitigation Options

TNT Equivalent (Impulse):	0.43
TNT Equivalent Weight - Impulse (lbs):	0.081
Kinetic Energy $10^6$ (lb-ft $^2$ /s $^2$ ):	0.0115

### Single Sandbag Mitigation

Required Wall & Roof Thickness (in)	12
Expected Max. Throw Distance (ft):	25
Minimum Separation Distance (ft):	200

### Double Sandbag Mitigation

Required Wall & Roof Thickness (in)	24
Expected Max. Throw Distance (ft):	10
Minimum Separation Distance (ft):	12.5

### Water Mitigation

Minimum Separation Distance (ft):	200/200
Water Containment System:	5 gal carboys/inflatable pool

Note: Use Sandbag and Water Mitigation in accordance with all applicable documents and guidance. If a donor charge larger than 32 grams is utilized, the above mitigation options are no longer applicable. Subject matter experts may be contacted to develop site specific mitigation options.

## Theoretical Calculated Fragment Distances

HFD [Hazardous Fragment Distance: distance to no more than 1 hazardous fragment per 600 square feet] (ft):	121
MFD-H [Maximum Fragment Distance, Horizontal] (ft):	886
MFD-V [Maximum Fragment Distance, Vertical] (ft):	639

## Overpressure Distances

TNT Equivalent (Pressure):	0.43
TNT Equivalent Weight - Pressure (lbs):	0.081
3.5 psi, K18 Distance (ft):	8
2.3 psi; K24 Distance (ft):	10
1.2 psi, K40 Distance (ft):	17
0.0655 psi, K328 Distance (ft):	142

"NOTE: Values shown within this section only address overpressure hazards and do not account for applicable distance values for fragments and debris as required per DoD 6055.09-M."

## Minimum Thickness to Prevent Perforation (in)

	<u>Intentional</u>	<u>Unintentional</u>
4000 psi Concrete (Prevent Spall):	1.47	1.47
Mild Steel:	0.12	0.12
Hard Steel:	0.10	0.10
Aluminum:	0.24	0.24
LEXAN:	1.71	1.71
Plexi-glass:	0.90	0.90
Bullet Resist Glass:	0.70	0.70

## Item Notes

The TNT equivalency for black powder rounds has been updated from 0.4 to 0.43 to agree with Rev 4 of TP 16. This has resulted in minor changes in values.

**Quality Assurance Project Plan  
Remedial Investigation/Feasibility Study for  
Area of Interest North of Castner Range  
El Paso, Texas**

**APPENDIX F**

**COMMUNITY RELATIONS PLAN**

# **Community Relations Plan**

## **Remedial Investigation/Feasibility Study**

### **for Area of Interest North of Castner Range**

### **El Paso, Texas**

**Contract Number: W912DY-10-D-0027 – Delivery Order: DS01**

**June 2017**

**Version: Final**

*Prepared for*

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Community Relations Plan  
Remedial Investigation/Feasibility Study for  
Area of Interest North of Castner Range  
El Paso, Texas

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### **Acronym List**

AOI	area of interest
Army	U.S. Army
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Action
CRP	Community Relations Plan
DoD	U.S. Department of Defense
DPW-E	Directorate of Public Works – Environmental Division
EPA	U.S. Environmental Protection Agency
FS	feasibility study
IRP	Installation Restoration Program
MD	munitions debris
MEC	munitions and explosives of concern
MMRP	Military Munitions Response Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
OB/OD	open burn/open detonation
RAB	Restoration Advisory Board
RCRA	Resource Conservation and Recovery Act
RI	remedial investigation
SARA	Superfund Amendments and Reauthorization Act
TAG	Technical Assistance Grant
TCEQ	Texas Commission on Environmental Quality
TPP	technical project planning
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command
USAESCH	U.S. Army Engineering and Support Center Huntsville

## **1. INTRODUCTION**

---

The U.S. Army Corps of Engineers (USACE) is conducting environmental response activities at the Area of Interest (AOI) North of Castner Range, El Paso, Texas, under the Defense Environmental Restoration Program – Military Munitions Response Program (MMRP). The U.S. Department of Defense (DoD) established MMRP to address military munitions located on current and Formerly Used Defense Sites. Based on historical records and previous investigations, this AOI may contain munitions and explosives of concern (MEC).

DoD has the responsibility for identifying, investigating, and determining cleanup activities related to former DoD facilities under MMRP. USACE is the lead agency responsible for managing the environmental response at the AOI and is supported by the U.S. Army Environmental Command (USAEC), Fort Bliss, Texas, and the lead regulatory agency, Texas Commission on Environmental Quality (TCEQ). Regulatory contact information is provided in **Appendix A**.

## 2. OVERVIEW OF THE COMMUNITY RELATIONS PLAN

The U.S. Army (Army) has developed this Community Relations Plan (CRP) to facilitate opportunities for the local community and stakeholders to be involved with and kept informed of the environmental investigation at the AOI North of Castner Range at El Paso, Texas. This site is currently entering the remedial investigation (RI) phase of MMRP. This CRP is critical to defining how Fort Bliss will communicate key project activities on the AOI North of Castner Range to the public.

Appropriate and effective communication, as well as timely exchange of information, is imperative to maintain community understanding and support for Fort Bliss and to ensure the success of community relations. Therefore, it is the continuing goal of Fort Bliss to:

- establish effective and comprehensive mechanisms for informing the community of program activities,
- solicit input and identify concerns the local community may have regarding ongoing and planned environmental activities related to the AOI North of Castner Range, and
- maintain a strategy fostering ongoing, two-way communication between the Army and the local community.

The CRP details outreach activities that encourage two-way communication between Fort Bliss and the local community. This communication includes providing opportunities for the community to learn about and comment on the RI at the AOI North of Castner Range. The community involvement activities recommended in the CRP are tailored to the distinct needs of the local community.

The CRP for the AOI North of Castner Range has been prepared in accordance with Engineer Pamphlet 200-3-1, *Public Participation Requirements for Defense Environmental Restoration Program* (USACE, 2011). In addition, this CRP was prepared in accordance with current U.S. Environmental Protection Agency (EPA) guidance, including *Superfund Community Involvement Handbook* (EPA, 2016) and *Resource Conservation and Recovery Act Public Participation Manual* (EPA, 2017). These handbooks outline the community involvement requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986; the 1976 Resource Conservation and Recovery Act (RCRA), as amended by the Hazardous and Solid Waste Act of 1984; and as stipulated in the guidance that interpret the Superfund legislation: the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The following sections of the CRP summarize the history of the installation, the AOI, and MMRP; profile the local community audience; summarize prior community involvement activities; identify community questions, concerns, perceptions, and communication preferences; and detail the current activities available for communicating with the public.

For more information regarding this document or the Fort Bliss environmental program, contact the following people.

[REDACTED]  
Directorate of Public Works  
Environmental Division  
ATTN: IMBL-PWE  
Building 622, Taylor Road  
Fort Bliss, TX 79916  
[REDACTED]  
[REDACTED]

[REDACTED]  
Public Affairs Office  
Fort Bliss, TX 79916  
[REDACTED]  
[REDACTED]

## **3. SITE DESCRIPTION AND HISTORY**

---

The following subsections provide an overview of the AOI North of Castner Range.

### **3.1. Property Description and Location**

The AOI North of Castner Range is 7,936 acres located in El Paso County, Texas. Of this 7,936 acres, 5,860 acres will be investigated during this RI/feasibility study (FS) due to safety concerns related to issues with terrain. It is located north of the Closed Castner Range and is bounded by Martin Luther King Boulevard on the east, the Franklin Mountains State Park on the west, and Stan Roberts Sr. Avenue on the north. Housing developments exist to the southeast and an operating quarry is just north of the northern boundary. The AOI location is shown in **Figure 3-1**.

The AOI North of Castner Range is currently owned by the state of Texas (Franklin Mountains State Park) and the city of El Paso, Texas. Current land uses at the AOI include recreation on state park land and ranching.

### **3.2. Property History**

The AOI North of Castner Range was identified when munitions debris (MD) items were found during background sampling activities associated with the adjacent Closed Castner Range. The MD was identified mostly in the southern portion of the AOI and included small arms casings, fragments of munitions of unknown type and model, and expended 75mm shrapnel projectiles. It is assumed that the MD came from the adjacent Closed Castner Range either as kick-out debris from the open burn/open detonation (OB/OD) unit or possibly from overshoot during training exercises.

Research did not identify any range fans that overlapped the AOI, the AOI was never owned or leased by Fort Bliss, and there is no official record of it having been used by Fort Bliss. Any munitions items identified likely came from either early undocumented potential use as a live-fire training area for artillery units or may have been dispersed during demolition explosions from disposal activities in the northeastern corner of the adjacent Closed Castner Range. One of its potential uses as a training site for the 82<sup>nd</sup> Field Artillery Regiment, 82<sup>nd</sup> Field Artillery Battalion, and 1<sup>st</sup> Cavalry Division indicates that it would not have been used before the units were established in 1916 and not after records indicate the beginning of use of the adjacent Closed Castner Range in 1926. The artillery units would have trained with munitions similar to those identified at the AOI previously—75mm projectiles. The Closed Castner Range was no longer used after 1966; therefore, MEC and MD items potentially present at the AOI from kick-out associated with the OB/OD area would be from the date range of 1926 to 1966.

### **3.3. Previous Investigations**

A MEC reconnaissance survey was conducted by U.S. Army Engineering and Support Center Huntsville (USAESCH) from 2013 to 2015. The survey was conducted to gather sufficient data to determine the MEC-related characteristics of the site and categorize the site into “Recommend RI” and “Recommend No RI” (USAESCH, 2015).

The survey was an instrument-assisted qualitative and quantitative reconnaissance that documented items encountered on the surface as well as quantities of detected subsurface anomalies. The AOI North of Castner Range exhibited evidence of past military training activity primarily in the southern portion. The majority of the northern area exhibited no evidence of explosives hazards.

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Munitions-related observations ranged from no evidence of explosive hazards to several expended 75mm shrapnel projectiles as well as fragments from light, medium, and heavy high-explosive munitions. No MEC items and no range-related debris were observed; however, 88 MD items and 1,020 cultural debris items—such as barbed wire—were identified (USAESCH, 2015).

## **4. COMMUNITY BACKGROUND**

---

The following section includes a description of the community in the project area, a chronology of community involvement, a summary of key community concerns identified during previous community interviews, the response to these key concerns, and communication requirements. Examples of interview questions are provided in **Appendix B**.

### **4.1. Community Profile**

The Fort Bliss cantonment area is in west Texas within the city limits of El Paso in El Paso County, Texas. The remainder of its contiguous acreage sprawls across portions of Texas and New Mexico, extending 45 miles north to New Mexico's White Sands Missile Range and 75 miles northeast to New Mexico's Lincoln National Forest.

#### **4.1.1. Fort Bliss**

Fort Bliss is a census-designated place located in El Paso County, Texas (<https://www.census.gov/quickfacts/table>). According to most recent available census data, Fort Bliss has a total population of 8,591. This population is comprised of Army and other military personnel and their families stationed at Fort Bliss and does not include soldiers rotating through Fort Bliss for training purposes. The population density is 1,398.7 people per square mile.

The racial makeup of Fort Bliss is 60.8% White alone (not Hispanic or Latino), 18.3% Hispanic, 14.5% African American alone, 1.6% Native American alone, 2.4% Asian alone, 0.3% Pacific Islander alone, and 5.0% from two or more races.

There are 1,525 housing units and 1,421 households with 4.02 persons per household. In Fort Bliss, the age distribution is 26.6% under the age of 18, 73.2% between the ages of 18 and 64, and 0.2% who are 65 years of age or older. The population is 65.8% male and 34.2% female.

The median income for a household in Fort Bliss is \$48,610 and the per capita income for Fort Bliss is \$19,017 with 13.1% of the population below the poverty line.

At Fort Bliss, 97.1% of people age 25 or older are high school graduates and 29.9% of people have a bachelor's degree or higher.

#### **4.1.2. El Paso, Texas**

According to most recent available census data (<https://www.census.gov/quickfacts/table>), El Paso, Texas, has a total population of 649,121 with 29.1% of persons under the age of 18, 59.7% between the ages of 18 and 64, and 11.2% 65 years or older. The population is 48% male and 52% female.

The racial makeup of El Paso, Texas, is 14.2% White alone (not Hispanic or Latino), 80.7% Hispanic, 3.4% African American alone, 0.7% Native American alone, 1.2% Asian alone, 0.1% Pacific Islander alone, and 2.7% from two or more races.

There were 227,605 housing units and 220,682 households with 3.03 persons per household. In El Paso, Texas, 78% of people age 25 or older are high school graduates and 23.2% of people have a bachelor's degree or higher.

The median income for a household in El Paso, Texas is \$42,772 and the per capita income is \$20,154 with 20.9% of the population below the poverty line.

The population density is 2,543.2 people per square mile.

#### **4.1.3. El Paso County, Texas**

According to most recent available census data (<https://www.census.gov/quickfacts/table>), El Paso County, Texas, has a total population of 800,647 with 27.9% of persons under the age of 18, 60.5% between the ages of 18 and 64, and 11.6% 65 years or older. The population is 48.4% male and 51.6% female.

The racial makeup of El Paso County, Texas, is 13.1% White alone (not Hispanic or Latino), 82.2% Hispanic, 3.1% African American alone, 0.8% Native American alone, 1.0% Asian alone, 0.1% Pacific Islander alone, and 2.5% from two or more races.

There were 270,307 housing units and 259,612 households with 3.14 persons per household.

In El Paso County, Texas, 75.7% of people age 25 or older are high school graduates and 21.35 of people have a bachelor's degree or higher.

The median income for a household in El Paso, Texas is \$41,637 and the per capita income is \$18,880 with 20.3% of the population below the poverty line.

The population density is 790.6 people per square mile.

## **4.2. History of Community Involvement**

Fort Bliss is committed to using community relations activities appropriate to the environmental program for the AOI North of Castner Range. The following section outlines the various opportunities that the Fort Bliss Directorate of Public Works – Environment Division (DPW-E) has provided for community participation through its Installation Restoration Program (IRP) and MMRP.

Fort Bliss follows a standard community relations program that focuses on interagency, local community, and employee communication techniques. These techniques, which will be followed during the environmental response activities at the AOI North of Castner Range, include the following.

- Maintain the Restoration Advisory Board (RAB) that was established in 1997. The RAB consists of volunteer community members, Army representatives, and federal/state/local regulators who review the status of the cleanup program and participate in the decision-making process. RAB meetings are open to the public and will be advertised by Fort Bliss in local newspapers and other media outlets.
- Implement technical project planning (TPP) throughout the project as meetings of internal project stakeholders. These meetings not only help build the technical tasks within the project scope but also help develop a direct pathway to the community involvement process. Information obtained from TPP meetings can help set agendas for future public meetings. Official stakeholders, many of which represent local community concerns, have been identified during previous work conducted at Fort Bliss. Three TPP sessions are planned for this environmental response effort.
- Use public notifications, meetings, and public comment periods at appropriate milestones for public involvement and review specific site investigation results and decisions. Responsiveness

summaries are prepared following the open comment periods to summarize and address comments. The effort will include two public meetings, further described in **Section 5**.

- Produce press and fact sheet releases to inform the public of investigation results as specific milestones are reached.
- Coordinate community meetings and briefings with regulators and local officials to discuss project activities with the general public and local officials.
- Maintain a mailing list of interested community members and local officials to distribute status updates, fact sheets, and public notifications. Contact information for local officials is listed in **Appendix C**, state officials in **Appendix D**, federal representatives in **Appendix E**, citizens groups in **Appendix F**, and media contacts in **Appendix G**.
- Maintain the Administrative Record providing public access to investigation reports, feasibility studies, responsiveness summaries, Records of Decision, fact sheets, remedial designs, and news releases. The Administrative Record and the information repository are established at the DPW-E (**Appendix H**).
- Establish a point of contact at the Public Affairs Office to assist with inquiries about the environmental program and obtain technical assistance as needed.
- Make available other as-needed techniques including site tours, installation newspaper articles, and articles in civic organization newsletters.
- Create a website to provide public access to news, meeting announcements, and available documents.
  - Environmental Division: <https://www.bliss.army.mil/DPW/Environmental/index.html>
  - Public Affairs Office: <https://www.bliss.army.mil/PAO/>

#### **4.3. Key Community Concerns**

Key community concerns associated with the AOI North of Castner Range include the following.

- Current land use (e.g. maintaining recreational use and ranching capabilities)
- Future land use
- Development of the property
- Timing and completion of future phases of project
- Safety of residents.

As progress on the RI tasks, and other future MMRP phases, continues at the AOI North of Castner Range, project status will be monitored as activities are completed and initiated to educate the public and to encourage them to participate in the remedial action process.

#### **4.4. Response to Community Concerns**

Recent public meetings, in the form of the RAB, have been held to keep the public informed about the investigation and field work to be conducted at the AOI North of Castner Range. Over the course of the RI and follow-up project phases, the Army will continue public involvement activities and incorporate stakeholder input during TPP and public meeting forums.

#### **4.5. Summary of Communication Needs**

Planned or completed public information activities include hosting a variety of meetings intended to engage specific elements with the public. These include:

- public meetings (intended for nearby residents, general public, and others interested in the future plans for the AOI);
- RAB meetings (intended for the general public); and

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- TPP planning meetings (intended for official project stakeholders that represent specific interests for the current and future use of the AOI and have input on the project planning)

The following additional activities are required.

- Place notices in local newspapers (both English and Spanish—Mexican dialect)
- Develop presentation materials that graphically and narratively describe the AOI and the actions being undertaken
- Provide Spanish language interpreters for meetings
- Maintain records on a public website (Fort Bliss DPW-E).

## **5. PUBLIC INVOLVEMENT PROGRAM**

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The overall goal of the CRP is to implement the community involvement activities to ensure that residents of the adjacent housing area and recreational users of the Franklin Mountains State Park are aware of the potential hazards associated with MEC. The public will be informed of the progress and results of the environmental response activities at the AOI.

### **5.1. Objectives**

The CRP is designed to encourage the public's involvement in the environmental program by providing information to the public and media on a timely basis. The program is also designed to be flexible so that as community information needs evolve and change, the public involvement program can be adjusted.

Therefore, the following objectives have been set for the AOI North of Castner Range public involvement program.

- Establish effective and comprehensive mechanisms for informing the community of environmental program activities
- Solicit input and identify concerns the local community may have regarding ongoing and planned environmental program activities
- Maintain a strategy fostering ongoing, two-way communication between the Army and the local community.

These objectives will be addressed by implementing the community relations actions described in the following section.

### **5.2. Community Relations Activities**

The community relations activities presented in this section are based on community concerns, Engineer Pamphlet 200-3-1 (USACE, 2011) and regulatory guidance outlined in the EPA *Superfund Community Involvement Handbook* (EPA, 2016) and *Resource Conservation and Recovery Act Public Participation Manual* (EPA, 2017). The activities are presented below in the order of those required to occur at particular milestones throughout the program, followed by those that may be appropriate for the program depending on community interest or project circumstances.

The proposed schedule for these activities is detailed in **Section 5.3**.

#### **5.2.1. Point of Contact**

The point of contact for community relations at Fort Bliss is the DPW-E IRP Manager in conjunction with the Public Affairs Office. The IRP Manager is the primary liaison between the community and the Army and works to ensure prompt, accurate, and consistent responses and information dissemination about the site. The IRP Manager is responsible for drafting information about the environmental restoration program and for ensuring that inquiries about the progress of the investigations, remedial actions, and other cleanup activities at AOI North of Castner Range are responded to in a timely and accurate manner. The IRP Manager also determines which activities are required or appropriate to meet the objectives of the CRP based on effectiveness and community interest. The IRP Manager will coordinate all community relations activities in conjunction with the Public Affairs Office. As the environmental program and community relations evolve over time, the IRP Manager will adjust and tailor the CRP to the changing circumstances.

[Redacted]  
Directorate of Public Works  
Environmental Division  
ATTN: IMBL-PWE  
Bldg 622, Taylor Road  
Fort Bliss, TX 79916  
[Redacted]  
[Redacted]

### 5.2.2. Information Repository

A public Information Repository is required under CERCLA to provide interested parties background and technical information about the environmental program at Fort Bliss. An Information Repository has been established at the Directorate of Public Works on the installation to provide a convenient location where Fort Bliss residents and the general public can go to read and copy official documents and other pertinent information about the AOI. The Information Repository includes work plans, technical reports, summary documents, and other information of public interest (e.g., fact sheets and news releases). The repository is accessible to the physically challenged, has copier facilities, and is available to the public during normal business hours. All that is needed to get onto this installation to access the Information Repository is a photo ID. The address and phone number for the buildings housing the Information Repository are presented in **Appendix H**.

### 5.2.3. Administrative Record

The Administrative Record is currently located in the same location as the Information Repository at the DPW-E. For sites undergoing CERCLA investigations, the NCP requires that an Administrative Record be established at or near the facility under investigation. The Administrative Record includes information that may form the basis for selecting a response or remedial action. It includes all documents leading to the selection of any response action at the installation and contains documents similar to those located in the Information Repository. The address and phone number for the buildings housing the Administrative Record are presented in **Appendix H**.

### 5.2.4. Public Notices

Public notices will be issued to announce milestone events related to remedial activities at the AOI North of Castner Range. Examples of milestones that would require a public notice include but are not limited to the following.

- Announcements of initiation of major work phases (e.g., RI, FS, etc.)
- Status updates regarding completion of major work phases
- The publication and availability of the RI Report
- The publication and availability of the Proposed Plan
- The publication and availability of Final Decision Document
- Regulatory related decisions.

Public notices serve as official notification to the local community of project plans for environmental activities, upcoming public involvement opportunities, and the availability of documents at the Information Repositories.

Public notices can be prepared and placed in local newspapers, made available as public service announcements to broadcast media, and/or included along with fact sheets sent to those on the mailing list.

#### **5.2.5. Evacuation Notices**

It is not anticipated that road closures or evacuations of the residential neighborhood adjacent to the AOI North of Castner Range will be required. However, should circumstances change, this CRP will be updated accordingly.

#### **5.2.6. Public Meetings**

Public meetings will be held during the course of this RI/FS to present and update the community on investigation developments and address community questions, concerns, ideas, and comments. Public meetings, both informal and formal, are intended to inform the community about ongoing site activities and to discuss and receive feedback from the public on proposed courses of action or results of the implemented action. Two public meetings are planned for this project. One public meeting will be held before field activities begin to inform the local community of the work to be performed. The second public meeting will be held after completing field activities to update the community on the results of the investigation. Additional public meetings for future phases of work will be determined as needed in the future. Spanish language interpreters will be provided at all public meetings to facilitate communication for all participants.

A public notification will precede the public meeting and the corresponding comment period. The public comment period lasts for at least 30 calendar days, allowing time for review and comment on the proposed changes. Public comments will be recorded at these meetings and during the comment period, and will be responded to through a responsiveness summary compiled by the Fort Bliss Public Affairs Office and IRP Manager.

Meetings will be announced through public notices, news releases, direct mailings, or a combination of the three at least 3 weeks prior to any scheduled meeting. **Appendix H** contains suggested meeting locations.

#### **5.2.7. Public Comment Periods**

Public comment periods give community members an opportunity to review and comment on various documents, especially the Proposed Plan. The review period provides an opportunity for the citizens to have meaningful involvement in the process while giving the project delivery team valuable information from the community. Public comment periods will be made available at the following CERCLA milestones.

- Publication of the RI and FS (separate deliverables)
- Publication of the Proposed Plan
- Regulatory-related decisions.

Each comment period will be announced separately, if necessary. Announcements will appear in local English- and Spanish-language newspapers. Information on the duration and how and where to submit comments will be included. Following notification, the public will have a 30-day period to review and provide comments on the de-listing documents or cleanup methods. Public comments will be recorded during the comment period and will be responded to through a responsiveness summary.

#### 5.2.8. Responsiveness Summaries

At the conclusion of the public comment periods, the Army will prepare a responsiveness summary or meeting minutes that summarize and respond to the comments received during the public comment period, including those comments given at the public meeting.

The responsiveness summary is issued as part of the document under comment or, in the case of a Proposed Plan, included as part of the Decision Document and made available in the Information Repositories listed in **Appendix H**.

#### 5.2.9. Mailing List Update

The Public Affairs Office, in conjunction with the IRP Manager, will maintain and update a current mailing list. Mailing lists are an important component of effective community outreach that ensure that interested community members, as well as other stakeholders and communities impacted by or interested in response activities, are kept informed of activities and opportunities for community involvement. A mailing list is used to distribute news releases, fact sheets, and other types of pertinent information for project activities.

Considered one of the cornerstones of an effective outreach strategy, the project mailing list will consist of interested individuals, local officials, and media representatives. The mailing list will be updated as necessary and appropriate and will provide information during all community relations activities about how individuals and groups can be added to the mailing list. Additionally, an e-mail contact list will be developed for those community members and stakeholders who prefer to receive project information in an electronic format. Contact information for local officials is listed in **Appendix C**, state officials in **Appendix D**, federal representatives in **Appendix E**, citizens groups in **Appendix F**, and media contacts in **Appendix G**.

#### 5.2.10. Restoration Advisory Board

Fort Bliss has supported an active and engaged RAB since 1997 and will continue to support a RAB as installation-restoration activities continue. Interest in the RAB will be solicited as appropriate to facilitate and maintain its formation. The Army anticipates that the AOI North of Castner Range RI activities will be a key discussion item for the RAB. The RAB reviews the technical information developed during and following the RI. The RAB provides an open forum for discussion and exchange of information between the public and the government agencies involved. The members also help Fort Bliss share information with the local community. Included in this group are leaders of local community groups, citizen representatives, and local public officials. The RAB currently meets at least once a year, generally in late February or early March, and will continue to do so as the status of the program warrants.

#### 5.2.11. Media Releases

Media releases, including fact sheets or status reports, will be distributed to community newsletters (i.e., civic organizations, community associations, etc.) as well as local and installation newspapers on an annual basis. The status reports will provide citizens with current, accurate, easy-to-read, easy-to-understand information about program and site activities to a broad community audience. In addition to providing status updates, releases will highlight upcoming community relations activities (including the RAB meeting schedule), point of contact information, and instructions detailing how to join the mailing list. All media releases will be coordinated through the Public Affairs Office.

### 5.2.12. Update Community Relations Plan

The CRP will be updated every 3 years or earlier, as needed, based on changes in program requirements, community concerns, and/or transition to later project phases. This CRP is a working document to guide the project staff. The CRP will be re-evaluated at these times to ensure that the schedule of community relations activities is appropriate.

### 5.3. Projected Schedule

**Table 5-1** summarizes community relations activities that are intended to keep the community informed of and involved in the investigation and cleanup activities. Activities required at set milestones identified by CERCLA are presented, as well as additional activities recommended for inclusion in the Fort Bliss CRP based on community needs and installation resources.

**Table 5-1**  
**Schedule of Community Relations Plan Activities**

Activity	Frequency
<b>Required Activities</b>	
Maintain a point of contact	Continuous
Update and maintain Information Repository	Continuous
Update and maintain Administrative Record	Continuous
Public notification	Publication of RI, FS, Proposed Plan, and Final Decision Document
Hold public meetings	Two meetings for RI As needed for future phases
Provide for a public comment period	Publication of RI, FS, and Proposed Plan
Complete and distribute a Responsiveness Summary	Publication of RI, FS, and Proposed Plan
Update and maintain mailing list	Continuous
<b>Additional Activities</b>	
Maintain RAB	Continuous
Publish and distribute media releases	Annually (or as needed)
Update Community Relations Plan	As needed, following completion of major CERCLA work phases, or every 3 years

### 5.4. Community Grant Opportunities

Two programs are available to assist communities in obtaining the technical resources needed to effectively review and evaluate environmental restoration activities. These two programs are summarized in the following sections.

#### **5.4.1. Technical Assistance Grant Program**

The Technical Assistance Grant (TAG) Program, which was established under SARA of 1986, promotes community involvement by providing qualified community groups (RABs, technical review committees, etc.) with funds to help the community participate in the decision-making process at National Priorities List (NPL) sites. TAGs allow community groups to obtain objective, independent scientific and engineering support by hiring a technical advisor who can help the community interpret and comment on the cleanup process. TAG awards are limited to \$50,000 per NPL site and are subject to certain regulations. Specific information regarding the TAG Program is available at:

<https://www.epa.gov/superfund/technical-assistance-grant-tag-program>. The AOI North of Castner Range RI/FS is not eligible for the TAG Program because the site is note on the NPL.

#### **5.4.2. Technical Outreach Services for Communities**

The Technical Outreach Services for Communities program, which is partially funded by grants from EPA, helps communities understand the environmental cleanup and site re-use process. This program uses the resources of researchers and professionals in the environmental science and engineering fields from more than 30 major research universities to provide communities with free, independent technical information needed to actively participate in solving environmental problems.

Specific information regarding the Technical Outreach Services for Communities program is available at:

[https://cfpub.epa.gov/ncer\\_abstracts/index.cfm/fuseaction/display.highlight/abstract/2302](https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.highlight/abstract/2302).

## 6. REFERENCES

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U.S. Army Corps of Engineers, 2011. *Public Participation Requirements for Defense Environmental Restoration Program*, Engineer Pamphlet 200-3-1. September.

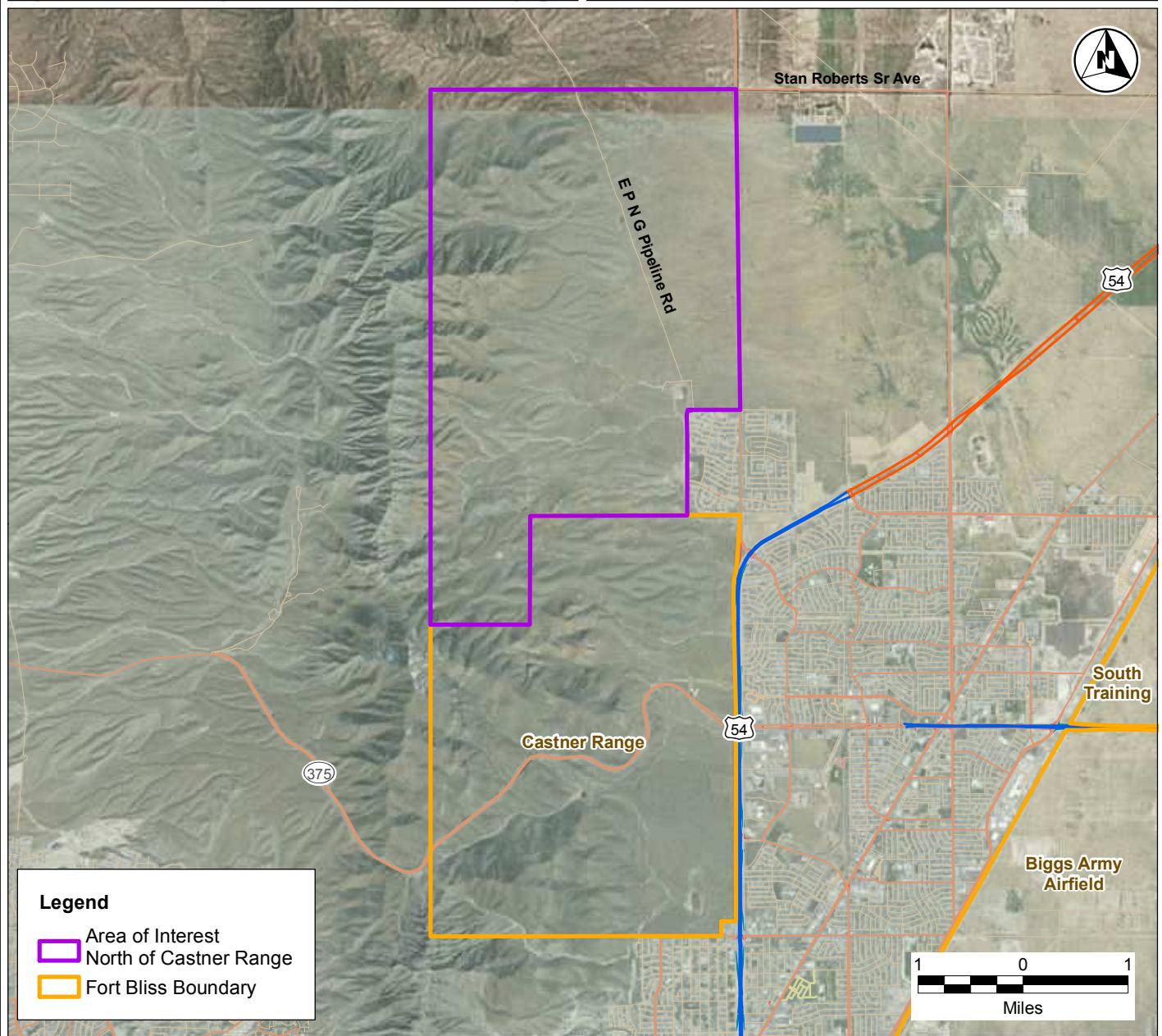
U.S. Army Engineering and Support Center Huntsville, 2015. *Final MEC Reconnaissance Survey Report, Former North Castner Range, El Paso, TX*. June.

U.S. Environmental Protection Agency (EPA), 2016. *Superfund Community Involvement Handbook*. January.

EPA, 2017. *Resource Conservation and Recovery Act Public Participation Manual*, 530-R-16-013. [https://www.epa.gov/sites/production/files/2017-01/documents/final\\_rcra\\_ppm.pdf](https://www.epa.gov/sites/production/files/2017-01/documents/final_rcra_ppm.pdf). January.

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**FIGURES**



**Area of Interest North of Castner Range**  
USACE - Tulsa District  
El Paso, Texas

**Figure 3-1**  
Site Location Map  
Community Relations Plan

## APPENDIX A

### REGULATORY CONTACTS

#### Texas Commission on Environmental Quality

[REDACTED]  
TCEQ

P.O. Box 13087  
Mail Code 221  
Mail Code: 127  
Austin, TX 78711-3087  
Phone: [REDACTED]

[REDACTED], Mail Code 221

TCEQ  
P.O. Box 13087  
Mail Code 221  
Austin, TX 78711-3087  
Phone: [REDACTED]

#### Texas Parks and Wildlife Department

[REDACTED]  
State Parks Division

Franklin Mountains State Park  
1331 McKelligan Canyon Road  
El Paso, TX 79930

## APPENDIX B

### SAMPLE INTERVIEW QUESTIONS

#### Privacy Act Statement

*Authority:* 10 U.S. Code (USC) 2705. *Principal Purpose:* To identify the attitudes and concerns of area residents concerning activities at the Military Munitions Response project during the study phase. The requested information will be used to develop a Community Relations Plan for the specific project in question. The information will also be used by the Army to develop a mailing list of individuals interested in receiving fact sheets and other general information about the study. Disclosure of the requested information is voluntary. Failure to provide all the requested information may lessen the effectiveness of the public involvement program for the project.

Name:

Address:

Telephone (H): \_\_\_\_\_

(W): \_\_\_\_\_

The primary purpose of collecting input from the community is to identify issues and concerns so that the Army can address them via its community outreach and involvement efforts. To obtain this information, interviewers asked participants the following questions.

1. How long have you lived in this community?
2. Does the community benefit from the proximity to the installation? How would you characterize the relationship between the community and the installation?
3. Are you familiar with what the installation is and what it does? Do you have any concerns about the installation? If so, what are they?
4. How sensitive is the local area to environmental issues on a scale of 1 to 5 (1 = not sensitive, 5 = very sensitive)?
5. What environmental problems are you concerned with in your community?
6. Are you aware of any environmental issues at the installation?
7. What do you know about the environmental issues at the installation?
8. What issues are important to you in terms of the installation environmental investigation and cleanup? Health issues? Costs? Time? Any others?
9. When did you first become aware of the environmental issues? How did you become aware?
10. How or where have you received most of your information about environmental issues at the installation? (newspaper, TV stations, radio, newsletter, other)
  - a. In your opinion, do the media in the area do an adequate job on reporting environmental news?
11. What organizations or individuals do you consider to be the most credible when it comes to environmental issues associated with the installation's restoration program? Least credible?
12. Have you had any contact with local, state, or other officials regarding the environmental restoration program?
  - a. If so, what was the nature of the contact?
  - b. What kind of response did you receive?
13. Do you have confidence in the Army's ability to implement environmental cleanup at the installation?
  - a. If no, how can the Army's credibility be improved?
14. What do you know about the history of community involvement concerning the

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environmental restoration at the installation?

- a. Have you personally been involved with the installation in any way?
- b. Are you aware of any individuals or groups who have emerged as leaders on this issue?
- c. Do you feel these individuals/groups adequately represent your concerns?

15. Do you feel you have been kept adequately informed about the installation's environmental programs?
16. How can those responsible best provide information concerning restoration activities at the installation (public meetings, letters, fact sheets, workshops, open houses, service organizations, speakers)? How frequently?
17. The installation has formed a Restoration Advisory Board (RAB) to review environmental issues and advise on cleanup activities.
  - a. Have you attended a meeting?
  - b. Would you like to be considered for membership?
  - c. Who would you recommend?
  - d. Do you feel there should be a RAB?
18. What would be the best location for community meetings? The best day of the week and time to hold a meeting?
19. Are you aware of the information repository available for public use?
  - a. Would you use an information repository?
  - b. What would you like to see in the repository?
  - c. Are these locations convenient for you? If no, where would be convenient for you?
20. Do you have any questions you would like answered about the installation or its Environmental Restoration Program? If you have any questions or comments in the future, how would you like the installation to respond to them (in writing, by phone, in newsletters, etc.)? Do you prefer information to be sent electronically or by mail?
21. Do you have any other comments, questions, or concerns about the installation?
22. Can you suggest anyone else (friend, neighbor, group, informal or formal leader) that we should contact or who might want to be included in this community survey?
23. Is there anything else you would like to mention that we have not talked about? If in answering this question you provide "historical" information, please identify the source of this information.

## APPENDIX C

### LOCAL OFFICIALS

#### **Mayor**

Oscar Leeser  
300 North Campbell  
El Paso, TX 79901  
Phone: 915-212-0021  
Email: [mayor@elpasotexas.gov](mailto:mayor@elpasotexas.gov)

#### **City of El Paso**

Miguel Parra  
Environmental Services  
7968 San Paulo Drive  
El Paso, TX 79907  
Phone: 915-212-6208  
Email: [ParraMX@elpasotexas.gov](mailto:ParraMX@elpasotexas.gov)

#### **District 4 Representative**

Carl L. Robinson  
300 North Campbell  
El Paso, TX 79901  
Phone: 915-212-0004  
Fax: 915-212-0014  
Email: [district4@elpasotexas.gov](mailto:district4@elpasotexas.gov)

## APPENDIX D

### STATE OFFICIALS

#### **Governor**

Greg Abbott  
Office of the Governor  
Mailing Address: P.O. Box 12428, Austin, Texas 78711  
Delivery Address: State Insurance Building, 1100 San Jacinto, Austin, Texas 78701  
Phone: 512-463-2000

#### **Texas State Senate**

Senator Jose Rodriguez  
Texas State Senate District 29  
El Paso District Address:  
100 N. Ochoa, Suite A  
El Paso, TX 79901  
Phone: 915-351-3500

#### **Texas State House of Representatives**

Representative Mary González  
Texas State House District 75  
El Paso District Address:  
11200 Santos Sanchez  
Socorro, TX 79927  
Phone: 915-790-2299

Representative Cesar Blanco  
Texas State House District 76  
El Paso District Address:  
9440 Viscount, Suite 205  
El Paso, TX 79925  
Phone: 915-599-9807

Representative Evelina “Lina” Ortega  
Texas State House District 77  
Capitol Address:  
Room E2.704  
P.O. Box 2910  
Austin, TX 78768  
Phone: 512-463-0638

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Representative Joe Moody  
Texas State House District 78  
El Paso District Address:  
5675 Woodrow Bean, Suite 12  
El Paso, TX 79924  
Phone: 915-751-2700

Representative Joe C. Pickett  
Texas State House District 79  
El Paso District Address:  
1790 Lee Trevino #307  
El Paso, TX 79936  
Phone: 915-590-4349

## APPENDIX E

### FEDERAL ELECTED OFFICIALS

#### U.S. Senate

Senator John Cornyn  
517 Hart Senate Office Bldg. Washington, DC 20510  
Phone: 202-224-2934  
Fax: 202-228-2856  
Web: <http://cornyn.senate.gov/>

Senator Ted Cruz  
404 Russell  
Washington, DC 20510  
Phone: 202-224-5922  
Web: <http://cruz.senate.gov/>

#### U.S. House of Representatives

Congressman Beto O'Rourke  
Congressional District 16  
1330 Longworth House Office Building  
Washington, DC 20515  
Phone: 202-225-4831  
Web: <http://orourke.house.gov/>

Congressman Will Hurd  
Congressional District 23  
317 Cannon House Office Building  
Washington, DC 20515  
Phone: 202-225-4511  
Web: <http://hurd.house.gov/>

## APPENDIX F

### ENVIRONMENTAL AND ACTIVE CITIZENS GROUPS

#### **Chihuahuan Desert Education Coalition**

913 Totonaca El Paso, TX 79912

[REDACTED]

[REDACTED]

#### **Franklin Mountains Wilderness Coalition**

[REDACTED] (Secretary)  
Franklin Mountains Wilderness Coalition 3344 Eileen Drive  
El Paso, TX 79904  
Phone: [REDACTED]

#### **Frontera Land Alliance**

[REDACTED]  
Frontera Land Alliance 3800 N. Mesa Suite A2-258  
El Paso, TX 79902  
Phone: [REDACTED]

## APPENDIX G

### MEDIA CONTACTS

#### Newspapers

##### **Fort Bliss Bugle**

[REDACTED] (Director)  
Garrison Public Affairs, IMLB-PA  
Building 15, Slater Road  
Fort Bliss, TX 79916-6812  
[REDACTED]  
[REDACTED]  
Web: <http://fortblissbugle.com/>

##### **El Paso Times**

500 West Overland Drive, #150  
El Paso, TX 79901  
Phone: 915-546-6159  
General Phone: 915-546-6100  
Classifieds: 915-546-6406

##### **El Diario de El Paso**

1801 Texas Ave.  
El Paso, TX 79901  
Phone: 915-838-1600

##### **The Prospector**

The University of Texas at El Paso Student Publications Board  
105 Union East  
El Paso, TX 79968  
Phone: 915-747-7434

##### **What's Up**

120 Porforio Diaz Street  
El Paso, TX 79902  
Phone: 915-534-4422  
Email: [web@whatsuppub.com](mailto:web@whatsuppub.com)

## APPENDIX H

### REPOSITORY LOCATIONS

#### **Information Repository and Administrative Records**

Directorate of Public Works  
Environmental Division  
Bldg 622, Taylor Road  
Fort Bliss, TX 79916  
Phone: 915-568-7979

## APPENDIX I

### MEETING LOCATIONS

#### **El Paso Police Department, Northeast Station**

9600 Dyer Street  
El Paso, TX 79904  
Phone: 915-212-8100

#### **Chapin High School**

7000 Dyer Street  
El Paso, TX 79904  
Phone: 915-236-4400

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**APPENDIX G**

**LABORATORY INFORMATION**

**(Provided on CD only)**

## Laboratory Quality Assurance Manuals and Standard Operating Procedures

Document No.	Title, Date, and URL (if available)	Laboratory	Comments
DV-QAM	Quality Assurance Manual, 4/12/2017, Rev. 10	TestAmerica Denver	
DV-IP-0010	Acid Digestion of Aqueous Samples for Metals Analysis by ICP, 06/30/17 Rev. 10 Methods: 3005A, 3010A		
DV-IP-0014	Acid Digestion of Aqueous Samples for Analysis by ICP-MS, 10/31/17, Rev. 10 Methods: 3005A, 3020A, 200.8		
DV-IP-0015	Acid Digestion of Solids, 10/31/2017, Rev109. Method: 3050B		
DV-LC-0002	Nitroaromatic and Nitroamine Explosive Compounds by High Performance Liquid Chromatography (HPLC), 06/30/17, Rev 19. Methods: 8330A, 8330B		
DV-MT-0021	ICP Analysis for Trace Elements by SW-846 Method 6010C/D, 07/31/17, Rev. 6		
DV-MT-0022	Inductively Coupled Plasma Mass Spectrometry for Trace Element Analysis, 10/31/17, Rev. 7 Method: 6020A/B		
DV-OP-0013	Incremental Sampling Methodology for Soils and Sediments, 10/15/17, Rev 10. Method: 6323		
DV-OP-0017	Solid Phase Extraction of Nitroaromatic and Nitroamine Explosive Compounds and Picric Acid from Water Samples, 10/31/17, Rev. 8 Method: 3535A		
DV-OP-0018	Extraction of Nitroaromatic Explosive Compounds and Picric Acid from Soil Samples, 10/05/17, Rev 9. Methods: 8330A, 8330B		
SGS-QAM	Quality Systems Manual, May 2016, Rev 1.	SGS Accutest	
GC 034.8	Analysis of Nitroaromatics, Nitramines, and Nitrate Esters by HPLC, August 2017 Method: 8330B		
MET 100.15	Metal by Inductively Coupled Plasma Atomic Emission Spectrometry, June 2016 Methods: 6010C, EPA 200.7		
MET 103.14	Digestion od Water Samples for ICP Analysis, June 2016 Methods: 3010A, EPA 200.7, EPA 200.8		
MET 104.12	Digestion of Soils for ICP Analysis, June 2016 Method: 3050B		
OP 018.10	Standard Operating Procedure for the Extraction of Explosives (Nitroaromatics, Ntramines and Nitrate Esters) from Water Samples for HPLC Analysis, August 2015 Methods: 3535A/8330A, 3535A/8330B, 3535A/8332		
OP 046.5	Standard Operating Procedure for the Extraction of Nitroaromatics and Nitramines (Explosives) from Solid Samples for HPLC Analysis, September 2015 Method: 8330B		

## **Laboratory Sensitivity Limits**

<b>Order</b>	<b>Document</b>	<b>Laboratory</b>	<b>Comments</b>
1	Accutest Limits – Limits	SGS Accutest	
2	TA Denver Limits – Limits	Denver	

## **Laboratory Certifications**

<b>Order</b>	<b>Document</b>	<b>Laboratory</b>	<b>Comments</b>
1	Accutest TX - expires May 2018	Accutest	
2	Accutest DOD ELAP - expires December 2018	Accutest	
3	Accutest NELAP - expires June 2018	Accutest	
4	TA Denver TX – expires September 2018	Denver	
5	TA Denver DOD ELAP - expires October 2019	Denver	
6	TA Denver NELAP - expires January 2018	Denver	